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ABSTRACT

This report, the fourth in the "Falling through the Net" series, measures the extent of computer and Internet connection among U.S. households and individuals. The data, obtained from Bureau of the Census statistics and interviews with 48,000 households, show that digital inclusion is rapidly increasing--households with Internet access soared by 58 percent since December 1998; more than half of all households have computers; and individuals using the Internet rose by a third. Groups that have traditionally been digital have-nots are now making dramatic gains--the gap between rural households and households nationwide that have access to the Internet has narrowed; Blacks and Hispanics have shown impressive gains in Internet access; the disparity in Internet usage between men and women has largely disappeared; and individuals over the age of 50 experienced the highest growth rate in Internet usage of all age groups. Nonetheless, a digital divide remains--people with disabilities are half as likely to have access to the Internet as those without disabilities; the gap between the national average Internet access rate and rates for Black and Hispanic households has widened; those over the age of 50 are the least likely to be Internet users; two-parent households are nearly twice as likely to have Internet access as single-parent households; and rural areas are lagging behind urban areas in broadband penetration. E-mail is the most widely used Internet application; online shopping and bill paying are growing the fastest; low-income users were most likely to use the Internet to look for jobs; and schools, libraries, and other public access points continued to serve those who did not have access at home. (Contains 112 figures and 23 data tables.) (TD)

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ED 448 966

FALLING THROUGH THE NET:
TOWARD DIGITAL INCLUSION

A Report on Americans' Access to Technology Tools

October 2000

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U.S. Department of Commerce

Economic and Statistics Administration
National Telecommunications and Information Administration

RC 022726

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THE SECRETARY OF COMMERCE
Washington, DC 20230

The digital economy is moving our Nation toward greater prosperity. Our goal at the Commerce Department is to ensure that all Americans – regardless of age, income, race, ethnicity, disability, or geography – gain access to the technological tools and skills needed in the new economy.

Falling Through the Net: Toward Digital Inclusion is a key part of the Department's ongoing efforts to promote full participation in the digital economy. It is important for our Nation to measure and analyze how the digital economy is affecting its citizens.

I am pleased that the data in this report show that, overall, our Nation is moving toward full digital inclusion. The number of Americans who are utilizing electronic tools in every aspect of their lives is rapidly increasing. However, a digital divide still remains. The report shows that not everyone is moving at the same speed, and identifies those groups that are progressing more slowly. The report also is rich with insights into *how* Americans are gaining access to key technologies, and how they are using such tools. With this information, we can better target and enact policies and programs to close the disparities in access to computers and the Internet that still are being experienced by some in our Nation.

I applaud the many public and private sector efforts that are helping Americans achieve greater access to the tools of the digital economy. We are rapidly becoming a digital Nation. We know that to not have access to such tools means to miss out on tremendous economic and educational opportunities. This report shows us that much work is left to be done.

The Commerce Department looks forward to continuing to work with the many public and private sector organizations that are striving to ensure greater digital inclusion for everyone.

Norman Y. Mineta

FALLING THROUGH THE NET:
TOWARD DIGITAL INCLUSION

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INTRODUCTION

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This is the fourth report in the Commerce Department series of studies, *Falling Through the Net*. The previous three were focused on the theme of the "Digital Divide," the concept that the society should not be separated into information haves and information have-nots.

With this report, we move into a new phase of our information-gathering and policy-making by recognizing the phenomenal growth that has taken place in the availability of computing and information technology tools, tempered by the realization that there is still much more to be done to make certain that everyone is included in the digital economy. Thus, the theme for this year, *Toward Digital Inclusion*, recognizes each element of the equation -- the progress made and the progress yet to be made.

Measuring the growth and use of the Internet is, like the Internet itself, a complex endeavor. This report reflects our attempt to capture three of the key benchmarks. Part I looks at Internet and computer access of households. We do this because the household is the traditional standard by which access is defined, in the United States and around the world. The examination of household access includes such factors as geography, income, race, and household type.

In looking at the results and trying to determine the progress from year to year, it is important to understand that there is more than one way to interpret the results. When looking at computer and Internet access, it is clear that certain groups have far higher levels of Internet access and computer ownership. These groups have generally exhibited greater percentage point changes in their penetration rates from one survey to the next. On the other hand, they exhibit slower expansion rates from one survey to the next. At the same time, groups with lower penetration rates are exhibiting smaller percentage point changes but higher expansion rates because they are starting from a much lower base and have more opportunity for rapid and greater expansion.

Part I also includes a new facet to the survey. For the first time, we survey household access to high-speed Internet services, primarily through cable TV and Digital Subscriber Line services. There are large differences in high-speed access based on income and other variables, and these initial data will enable us to track the increases and diffusion of high-speed access as broadband infrastructure is widely adopted.

Part II provides a different way of looking at the penetration of Internet access and computers. Instead of looking at households, this section of the report examines computer and online access by individuals. Many households, for example, include people who do not use the Internet, and the rate or degree at which this occurs differs among groups. By focusing on individuals, we are also able to capture important differences in Internet use based on people's age, gender, and labor force status. We can also look at how people use the Internet, for example, for e-mail or to look for a job, as well as where they use it, whether at home or at a library, for example.

Part III, for the first time, examines the use of computers and the Internet among people with disabilities that adversely affect their ability to walk, to see, to hear, to use their hands and fingers, or to learn. In general, Internet access is half as common among people with disabilities as among other people, and computer access is even more skewed. To some degree this may reflect the fact that on average, disabled people are older and less likely to be employed, and also have lower incomes than people without disabilities. All of these variables are associated with lower computer and Internet use.

By preparing and issuing this report, we hope to establish an objective baseline so the American people can understand the critical issue of access to the information technologies that are transforming the economy and our lives. In this way, this report can provide a basis for the continuing public debate about how best to ensure that every American can participate in the digital economy.

EXECUTIVE SUMMARY

The Internet is becoming an increasingly vital tool in our information society. More Americans are going online to conduct such day-to-day activities as education, business transactions, personal correspondence, research and information-gathering, and job searches. Each year, being digitally connected becomes ever more critical to economic and educational advancement and community participation. Now that a large number of Americans regularly use the Internet to conduct daily activities, people who lack access to these tools are at a growing disadvantage. Therefore, raising the level of *digital inclusion* by increasing the number of Americans using the technology tools of the digital age is a vitally important national goal.

This report, *Falling Through the Net: Toward Digital Inclusion*, is the fourth in the *Falling Through the Net* series. In this report, we measure the extent of digital inclusion by looking at households and individuals that have a computer and an Internet connection. We measure the digital divide, as we have before, by looking at the differences in the shares of each group that is digitally connected. For the first time, we also provide data on high-speed access to the Internet, as well as access to the Internet and computers by people with disabilities.

The data show that the overall level of U.S. digital inclusion is rapidly increasing:

- The share of households with Internet access soared by 58%, rising from 26.2% in December 1998 to 41.5% in August 2000.
- More than half of all households (51.0%) have computers, up from 42.1% in December 1998.
- There were 116.5 million Americans online at some location in August 2000, 31.9 million more than there were only 20 months earlier.
- The share of individuals using the Internet rose by a third, from 32.7% in December 1998 to 44.4% in August 2000. If growth continues at that rate, more than half of all Americans will be using the Internet by the middle of 2001.

The rapid uptake of new technologies is occurring among most groups of Americans, regardless of income, education, race or ethnicity, location, age, or gender, suggesting that digital inclusion is a realizable goal. *Groups that have traditionally been digital "have nots" are now making dramatic gains.*

- The gap between households in rural areas and households nationwide that access the Internet has narrowed from 4.0 percentage points in 1998 to 2.6 percentage points in 2000. Rural households moved closer to the nationwide Internet penetration rate of 41.5%. In rural areas this year, 38.9% of the households had Internet access, a 75% increase from 22.2% in December 1998.

- Americans at every income level are connecting at far higher rates from their homes, particularly at the middle income levels. Internet access among households earning $35,000 to $49,000 rose from 29.0% in December 1998 to 46.1% in August 2000. Today, more than two-thirds of all households earning more than $50,000 have Internet connections (60.9% for households earning $50,000 to $74,999 and 77.7% for households earning above $75,000).

- Access to the Internet is also expanding across every education level, particularly for those with some high school or college education. Households headed by someone with "some college experience" showed the greatest expansion in Internet penetration of all education levels, rising from 30.2% in December 1998 to 49.0% in August 2000.

- Blacks and Hispanics still lag behind other groups but have shown impressive gains in Internet access. Black households are now more than twice as likely to have home access than they were 20 months ago, rising from 11.2% to 23.5%. Hispanic households have also experienced a tremendous growth rate during this period, rising from 12.6% to 23.6%.

- The disparity in Internet usage between men and women has largely disappeared. In December 1998, 34.2% of men and 31.4% of women were using the Internet. By August 2000, 44.6% of men and 44.2% of women were Internet users.

- Individuals 50 years of age and older -- while still less likely than younger Americans to use the Internet -- experienced the highest rates of growth in Internet usage of all age groups: 53% from December 1998 to August 2000, compared to a 35% growth rate for individual Internet usage nationwide.

Nonetheless, a digital divide remains or has expanded slightly in some cases, even while Internet access and computer ownership are rising rapidly for almost all groups. For example, our most recent data show that divides still exist between those with different levels of income and education, different racial and ethnic groups, old and young, single and dual-parent families, and those with and without disabilities.

- People with a disability are only half as likely to have access to the Internet as those without a disability: 21.6% compared to 42.1%. And while just under 25% of people without a disability have never used a personal computer, close to 60% of people with a disability fall into that category.

- Among people with a disability, those who have impaired vision and problems with manual dexterity have even lower rates of Internet access and are less likely to use a computer regularly than people with hearing difficulties. This difference holds in the aggregate, as well as across age groups.

- Large gaps also remain regarding Internet penetration rates among households of different races and ethnic origins. Asian Americans and Pacific Islanders have maintained the highest level of home Internet access at 56.8%. Blacks and Hispanics, at the other end of the spectrum, continue to experience the lowest household Internet penetration rates at 23.5% and 23.6%, respectively.

- Large gaps for Blacks and Hispanics remain when measured against the national average Internet penetration rate.

  -- The divide between Internet access rates for Black households and the national average rate was 18 percentage points in August 2000 (a 23.5% penetration rate for Black households, compared to 41.5% for households nationally). That gap is 3 percentage points wider than the 15 percentage point gap that existed in December 1998.

  -- The Internet divide between Hispanic households and the national average rate was 18 percentage points in August 2000 (a 23.6% penetration rate for Hispanic households, compared to 41.5% for households nationally). That gap is 4 percentage points wider than the 14 percentage point gap that existed in December 1998.

  -- With respect to individuals, while about a third of the U.S. population uses the Internet at home, only 16.1% of Hispanics and 18.9% of Blacks use the Internet at home.

  -- Differences in income and education do not fully account for this facet of the digital divide. Estimates of what Internet access rates for Black and Hispanic households would have been if they had incomes and education levels as high as the nation as a whole show that these two factors account for about one-half of the differences.

- With regard to computer ownership, the divide appears to have stabilized, although it remains large.

  -- The August 2000 divide between Black households and the national average rate with regard to computer ownership was 18 percentage points (a 32.6% penetration rate for Black households, compared to 51.0% for households nationally). That gap is statistically no different from the gap that existed in December 1998.

  -- Similarly, the 17 percentage point difference between the share of Hispanic households with a computer (33.7%) and the national average (51.%) did not register a statistically significant change from the December 1998 computer divide.

- Individuals 50 years of age and older are among the least likely to be Internet users. The Internet use rate for this group was only 29.6% in 2000. However, individuals in this age group were almost three times as likely to be Internet users if they were in the labor force than if they were not.

- Two-parent households are nearly twice as likely to have Internet access as single-parent households (60.6% for dual-parent, compared to 35.7% for male-headed households and 30.0% for female-headed households). In central cities, only 22.8% of female-headed households have Internet access.

- Even with broadband services, a relatively new technology used by only 10.7% of online households, there are disparities. Rural areas, for example, are now lagging behind central cities and urban areas in broadband penetration at 7.3%, compared to 12.2% and 11.8%, respectively.

Americans are using the Internet in the following ways:

- E-mail remains the Internet's most widely used application –79.9% of Internet users reported using e-mail.

- Online shopping and bill paying are seeing the fastest growth.

- Low income users were the most likely to report using the Internet to look for jobs.

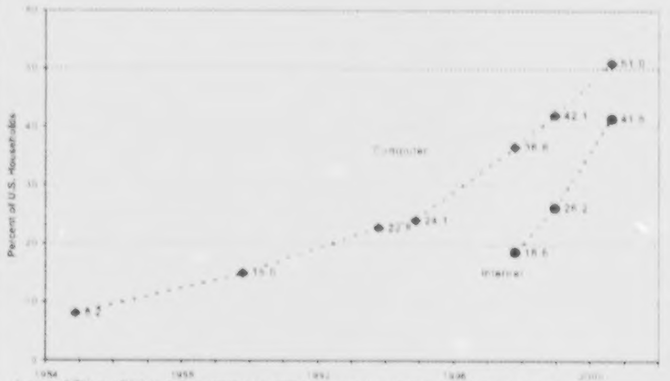
- The August 2000 data show that schools, libraries, and other public access points continue to serve those groups that do not have access at home. For example, certain groups are far more likely to use public libraries to access the Internet, such as the unemployed, Blacks, and Asian Americans and Pacific Islanders.

Internet access is no longer a luxury item, but a resource used by many. Overall, the findings in this report show that there has been tremendous progress in just 20 months, but much work remains to be done. Computer ownership and Internet access rates are rapidly rising nationwide and for almost all groups. Nonetheless, there are still sectors of Americans that are not digitally connected.

PART I
HOUSEHOLD ACCESS TO COMPUTERS AND THE INTERNET

Americans bought home computers and hooked them up to the Internet at a remarkable rate between December 1998 and August 2000. In just 20 months, the share of households with Internet access soared by 58%, from 26.2% to 41.5%, while the share of households with computers rose from 42.1% to 51.0%.[1] More than 80% of households with computers also have Internet access today, up from little more than 60% in 1998.

Figure I-1
Percent of U.S. Households with a Computer and Internet Access, Selected Years



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements.

Virtually every group has participated in the sharp upward trend of Americans connecting their homes to the Internet. Large gains occurred at every income category, at all education levels, among all racial groups, in both rural and urban America, and in every family type. As documented since 1997, certain groups are much further ahead than others in establishing Internet connections from home. This year, however, we found that households in the middle income and education ranges are gaining ground in connecting to the Internet at a rate as fast or faster than those at the top ranges.

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[1] The share of homes with computer and Internet access represents a widely used gauge of electronic connectivity for a country's population. The three previous reports in the *Falling Through the Net* series beginning in 1995 have focused on this metric, as have reports done in Australia, Canada, Denmark, Finland, France, Germany, Italy, Japan, Norway, Sweden, and the United Kingdom. This measure is used because, in some cases, data on a household basis are the only data available. As more demographic data on people's access become available, as those covered in the second part of this report, other metrics can be expected to become more common.

The rapid growth in computer and Internet use among those in the middle income and education ranges and among relatively disadvantaged populations suggests that, in some cases, the digital divide has begun to narrow or will do so soon, and that we are entering a period of fuller *digital inclusion*. In general, groups with very low adoption levels in 1998 experienced some of the highest expansion or growth rates over the last two years, even though they may not have experienced a high percentage-point change.[2] (See Tables I-1 and I-2 on pages 30 and 31.)

This section of the report examines the prevalence of households with home computers and Internet access by various demographic and geographic breakdowns, and also discusses reasons why some households with computers chose not to go online. We also look at the penetration of higher speed Internet access. Although still modest -- 11% of Internet users and 4% of all households -- these broadband connectivity rates establish a benchmark for future comparisons.

OVERALL HOUSEHOLD FINDINGS: THE NATION MOVES TOWARD DIGITAL INCLUSION

Between December 1998 and August 2000, U.S. households' access to computers and the Internet grew dramatically. According to the latest survey, 43.6 million households (or 41.5% of all households) had Internet access.[3] The percentage of homes with household Internet access registered an impressive 58% gain from the 26.2% penetration rate in December 1998.

Computer ownership has also continued to soar. In August 2000 53.7 million households had computers. The percentage of homes with computers rose by 21%, from 42.1% to 51.0%, from December 1998 to August 2000. Taking a slightly longer view, since 1997, computer penetration has risen by almost 40%, while Internet access has soared by 123%.

The rapid uptake of the Internet is perhaps best revealed by examining the growing percentage of households with computers or other devices that connect to the Internet. In 1997, just over half of all households with computers had Internet access. By 2000, that figure had surged to four out of five households.

DIGITAL INCLUSION PROCEEDS UNEVENLY

The tremendous growth in household computer and Internet use has occurred across all demographic groups, including income and education levels, races, locations, and household types. Nevertheless, some Americans are still connecting at far lower rates than others, creating a *digital divide* (*i.e.*, a difference in rates of access to computers and the Internet) among different demographic groups.

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[2] Gauging the progress of a given group relative to others with respect to computer and Internet access can be accomplished in several ways. In this report, we have made use of two indicia: percentage-point change and percentage change (expansion rate).

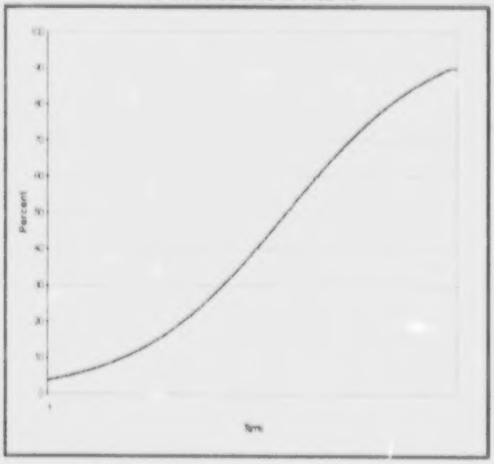
[3] As of August 2000, there were an estimated 105 million households in the United States.

Certain groups (such as Whites, Asian Americans and Pacific Islanders, and those with higher income and education levels) have higher than average levels of computer ownership and Internet access. These groups have generally exhibited greater percentage point changes (that is, the change in penetration rate from one survey to the next). On the other hand, they exhibit slower expansion or growth rates (*i.e.*, growth in the percentage rate). At the same time, groups with lower penetration rates (such as Blacks, Hispanics, and those with lower income and education levels) are exhibiting smaller percentage point changes but higher expansion rates because they are starting from a much lower base and have more opportunity for rapid, and greater, expansion. For example, a group that had a penetration rate of 10% in December 1998 and 20% in August 2000 would exhibit a 100% expansion rate but only a 10 percentage point change.

A case in point centers on households with both high income and high education levels. These households made substantial percentage point gains in Internet access over 20 months. They had already achieved relatively high levels of penetration by December 1998. Their expansion rates since that date, however, have been matched or surpassed by those with mid-range incomes and levels of education.

The pattern exhibited thus far by household access to both computers and the Internet accords with the "S-curve" pattern typically observed in the adoption of new technologies. Historically, when a new technology is first introduced, the number of users expands rapidly but from a low base. Over time, as a group reaches the middle range of the S-curve, the growth rate tends to slow while the point change continues to increase. Once the penetration nears its saturation point (at the higher end of the S-curve), both the percentage point change and the expansion rate begin to decrease.

Figure I-2
An Illustrative S Curve



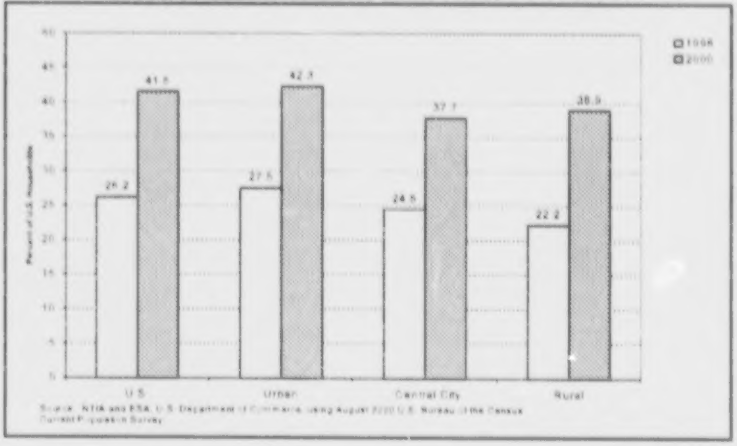
The adoption rates along these curves depend on a number of factors, including the awareness of the new technology, the affordability of that technology, adaptations to the technology to widen its potential market, and the attraction for people to use the technology as its usage becomes widespread. The purchase of computers for the home has been spurred not only by falling prices and more user-friendly software, but also by public policy decisions not to regulate or otherwise impede the rapid expansion of the Internet. For Internet access itself, the continuation of public policies to promote competition (that lowers prices and improves quality) and to make new technologies more accessible will substantially influence the uptake rates of the current groups of information "have-nots," and will help move these groups to greater digital inclusion.

Below we examine variations in household Internet and computer access, looking at differences in geography, income, race/ethnicity, education, and household type.

GEOGRAPHY

One of the most dramatic shifts that has occurred since December 1998 has been the increase in Internet access by rural households. Rural areas narrowed the divide when compared to the national average. In contrast, central cities had significant increases in access, but fell behind other parts of the country in terms of the gains in access. Urban areas, even though they include central cities, continue to have a greater percentage of households with Internet penetration than rural areas.[4] Data relating to Internet access by geography can be found in the Appendix, Figures A8-A10, A12-A14.

Figure I-3
Percent of U.S. Households with Internet Access
By U.S., Rural, Urban and Central Cities, 1998 and 2000



Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey

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[4] The "urban" category includes those areas classified as being urbanized (having a population density of at least 1,000 persons per square mile and a total population of at least 50,000) as well as cities, villages, boroughs (except in Alaska and New York), towns (except in the six New England states, New York, and Wisconsin), and other designated census areas having 2,500 or more persons. A "central city" is the largest city within a "metropolitan" area, as defined by the Census Bureau. Additional cities within the metropolitan area can also be classified as central cities if they meet certain employment, population, and employment/residence ratio requirements. All areas not classified by the Census Bureau as urban are defined as rural and generally include places of less than 2,500 persons. About 1/4 of all households were in rural areas in August 2000.

Rural Households Narrow the Gap

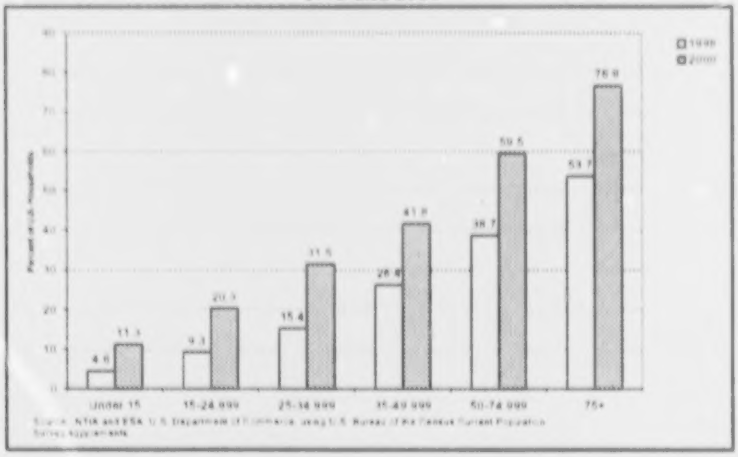
Rural households, which historically trailed those in central cities and urban areas, are showing significant gains in Internet access. The gap between households in rural areas and households nationwide that access the Internet has recently narrowed. There was a 4.0 percentage point difference in 1998, narrowing to a 2.6 point difference in 2000.

In rural areas this year, 38.9% of households had Internet access, an increase of 75% from 1998's access rate of 22.2%. In October 1997, just 14.8% of rural households had online access.

Rural Black households, which have historically had the lowest rates of Internet access, made significant gains. In December 1998, 7.1% of those households had Internet access. By 2000, the figure jumped to 19.9%.

The growth in rural Internet household access has come at all income levels, with the lowest levels showing some of the highest growth rates. As a result, the Internet access rates for rural households now approximate those of households across the country.

Figure I-4
Percent of Rural Households with Internet Access By Income ($000s), 1998 and 2000



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

In the lowest income category, households with income below $15,000, Internet access for rural households rose from 4.6% to 11.3%. At most of the other income levels, rural households now come close to the nationwide figures, having doubled their access rates through the middle income levels. Growth rates have been slower at the highest income levels, but the access rates are only slightly below the national average.

Slower Growth in Central Cities

In contrast to the strong growth in rural areas, households in central cities have experienced much lower rates of increase for their Internet penetration. In August 2000, 37.7% of central city households had Internet access, contrasted with the national figure of 41.5%–a gap of 3.8 percentage points. In December 1998, central city households had a 24.5% access rate, 1.7 percentage points lower than the national rate. In terms of the national figures, the gap appears to be growing, rather than narrowing, and central cities have slipped below the rural areas in terms of household access.

Although households in central cities experienced double-digit growth in household Internet access, their access rate was below that of the national average. The increase for central city households from December 1998 to August 2000 was 13.2 percentage points (an expansion of 54%). This compares to an increase over the 14 months between the 1997 and 1998 surveys of 7.2 points (a growth rate of 42%).

Every income category for central city households showed double-digit percentage growth between 1998 and 2000. At the lowest income level, below $15,000, household Internet access nearly doubled, from 7.7% in 1998 to 13.5% in 2000 (an increase of 75%).

Black households in central cities registered a 20.1% access rate, about double the 1998 rate of 10.2%, but slightly below the national average for Blacks of 23.5%. The Hispanic households in central cities had a 21.5% access rate, a little more than double the 1998 figure of 10.2%, but slightly below the national average for Hispanic households of 23.6%.[5] White central city households had a 47.1% Internet access rate, up from 32.3% in December 1998.

Urban Areas Continue Above-Average Internet Access

Urban areas continue to have the highest household Internet penetration rates. The rate of growth in household Internet access in urban areas between 1998-2000 was about the same as it was for central cities, about 57%. However, the level of Internet access in urban areas started from a high level, and continues to exceed the national average.

In urban areas, 42.3% of households had Internet access, contrasted with 41.5% of households nationally in 2000. Urban households have seen a steady increase over the last three years. In 1997, the Internet penetration rate for urban households was 19.9%. It grew to 27.5% in 1998. The lowest income levels saw a 72% increase between 1998 and 2000, which translated to a 5.5 percentage point increase to the current level of 13.2% access for households with incomes under $15,000. The $75,000+ category had a household access rate of 78.0%, the highest single category rate for the geographic regional breakdown.

Each racial and ethnic group had higher household Internet penetration rates in urban areas than in rural areas. Urban Black households registered a 24.0% access rate, up from 11.7% in December 1998, and contrasted with the rural figure of 19.9% for Black households. Hispanic households had a 23.9% rate, up from 12.9% in December 1998, and above the 19.9% rural rate for Hispanic households. The White household rate in urban areas was 48.3%, up from 32.4% in December 1998, and above the national average of 46.1%.

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[5] In surveys underlying this report, persons of Hispanic origin were determined through self-identification by place of origin or descent. Persons of Hispanic origin are those who indicated that their origin was Mexican-American, Chicano, Mexican, Puerto Rican, Cuban, Central or South American, or other Hispanic. People of Hispanic ethnicity can be of any race. In the tabulations throughout this analysis, people of Hispanic origin are grouped as Hispanic and excluded from the race categories. Throughout this report, "Whites" should be read as "Whites, non-Hispanic" and "Blacks" should be read as "Blacks, non-Hispanic."

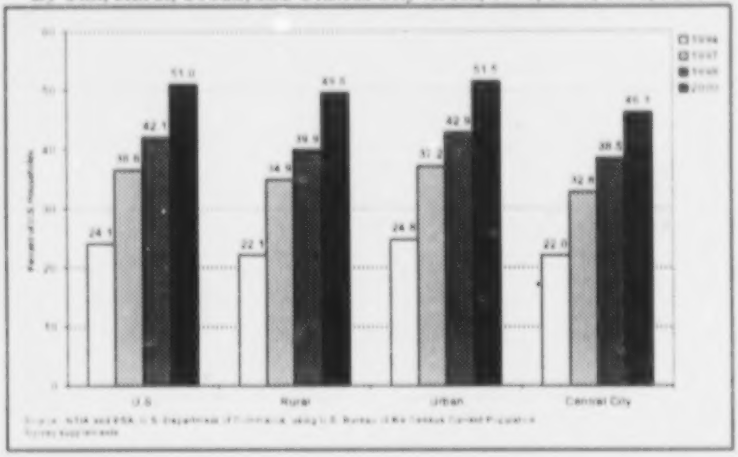
Snapshot from Geographical Regions

The West continues to be the most on-line region of the country, with household Internet access of 46.6%, followed by the Northeast (43.0%), Midwest (40.9%), and South (37.9%). Rural areas in the Northeast registered the highest access rate (49.9%), followed by urban areas in the West (47.2%). Northeast central city regions had the lowest household access rate (33.1%), followed by rural regions in the South (33.8%).

Computer Ownership by Geography

Nationally, just over half (51%) of households own computers, up from 42.1% in December 1998. Urban areas had the highest rate of ownership (51.5%), increasing 8.6 points in the last 20 months. Rural areas, tracking the growth in Internet access, increased 9.7 percentage points, to reach a household ownership level of 49.6%. Central cities had a 46.3% ownership rate, up 7.8 points since December 1998. All data relating to computer ownership by geography can be found in the Appendix, Figures A2-A4, A6-A7.

Figure I-5
Percent of U.S. Households with a Computer
By U.S., Rural, Urban, and Central City Areas, 1994, 1997, 1998, 2000



Households in all regions at all income levels also showed improvement in computer ownership. In both central cities and in urban areas, 20% of households with less than $15,000 in income now own computers, contrasted with 17% of rural households in the same income bracket. Nationally, 19.2% of households with less than $15,000 owned a computer in August 2000, up from 14.5% in December 1998.

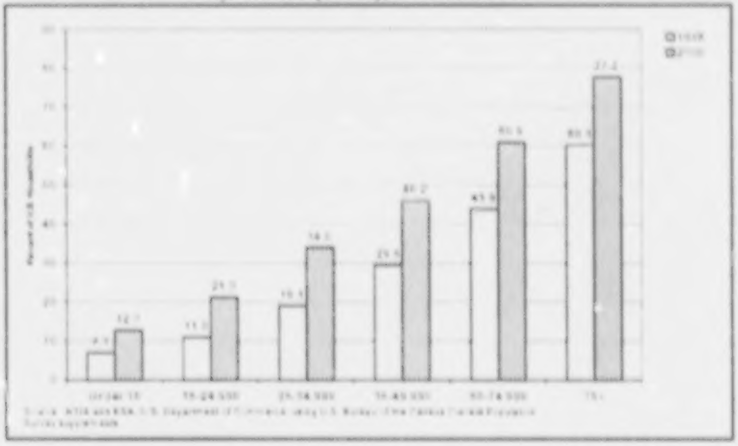
INCOME

Although computers and Internet access are coming down in price, they are still sufficiently expensive that household income remains an important factor in home Internet access. Nevertheless, households across all income levels and throughout the country have made significant gains in Internet access since December 1998. Some of the biggest gains have come at every income level in rural areas. In addition, gains have been made at all income levels by different racial and ethnic groups. Data relating to Internet access by income can be found in the Appendix, Figures A9 and A11.

Internet Penetration Rises Across Income Levels

Household Internet access continues to correlate closely with income. Across the United States, however, households in the lower income bands registered increases in Internet access much faster than the national 58% gain. Households with less than $15,000 in income had a 12.7% Internet penetration rate, 79% higher than in December 1998.[8] Between 1997 and 1998, the income band improved [illegible]2%, from 3.9% penetration to 7.1%. At the $15,000-$24,999 income levels, 21.3% of households had Internet access. The rate of increase between 1998 and 2000 was 93%, as the penetration rate increased steadily from 8.1% in 1997, to 11.0% in 1998, to 21.3% in 2000. In August 2000, the penetration rate for households with incomes between $25,000 and $34,999 stood at 34.0%, an increase of 78% over the 19.1% penetration rate in 1998.

Figure I-6
Percent of U.S. Households with Internet Access
By Income ($000s), 1998 and 2000



All three income ranges beyond $35,000 had the same 17 point gain from 1998 to 2000. Households with income between $35,000 and $49,999 achieved a 46.1% Internet penetration rate in 2000, up from 29.0% in 1998. Households with incomes between $50,000 and $74,999 went from 43.9% to 60.9%, while those at $75,000 and above climbed from 60.3% to 77.7%. With the same point gain but starting from much lower initial levels, the $35,000-$49,999 and the $50,000-$74,999 income groups had larger expansion rates than the highest income group.

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[8] Although the Census Bureau collected data on household income in $5,000 increments up to $35,000, this report depicts changes in wider income bands. Since the latest ceiling for poverty income is $13,300 for a family of three and $17,000 for a family of four, it seemed appropriate to set the first breakpoint at $15,000.

Geographic Areas Show Different Rates of Increase

Different areas of the country showed different rates of growth in household Internet penetration at incomes below $75,000. At the highest income level ($75,000 and higher) household penetration was relatively equal in all geographic areas at 77%.

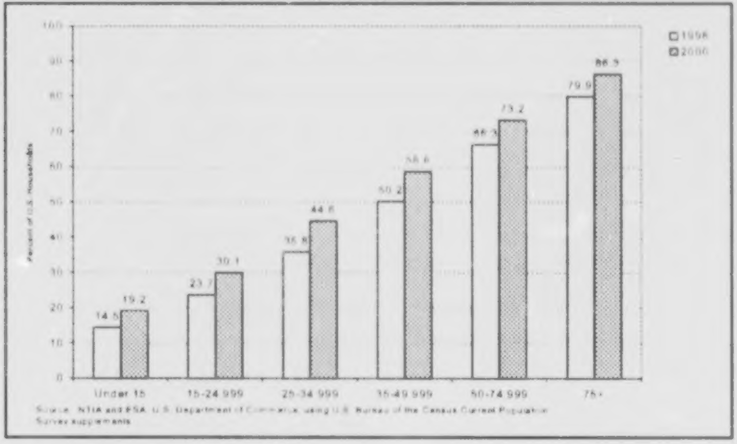
For households earning less than $15,000 annually, rural households had the lowest penetration rate at 11.3%. However, that rate is more than double what it was for the same group of households in 1998 (at 4.5%). In other locations, however, the household penetration rate for the lowest income group is higher, even if the rate of growth is lower. In urban areas, for example, 13.2% of lowest-income households had Internet access, an increase of 5.5 percentage points (72% higher than 1998 levels). Central city households with incomes below $15,000 achieved a 13.5% penetration rate in 2000, a 75% increase from 1998.

Rural areas at all income levels showed the highest percentage increases in penetration rates. In addition to the 146.5% for the lowest income group, households with incomes between $15,000 and $24,999 achieved increases of almost 120%. Increases in Internet access across all income levels in other areas were lower, but all showed improvement. In urban areas, for example, Internet access among households with incomes between $15,000 and $24,999 grew 87% in 2000 over their 1998 access rates. Central city households, however, had lower increases than rural areas. The household income brackets with the highest percentage increases were the group with less than $15,000 income, which achieved a 75% increase, to a 13.5% penetration level, and the group between $15,000 and $24,999, which had a 61% increase, achieving a 20.7% access level for 2000.

Low-Income Households Show Computer Ownership Gains

Almost one-fifth (19.2%) of households in the lowest income bracket (under $15,000 per year) now own computers, an increase of 4.7 percentage points from the 14.5% figure in December 1998. Overall, households at the lowest income levels increased their ownership of computers by approximately one-third in August 2000 over the December 1998 levels.

Figure I-7
Percent of U.S. Households with a Computer
By Income ($000s), 1998 and 2000



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

At other income levels, 30.1% of households in the $15,000-$24,999 bracket had computers in 2000, a 27% increase over 1998. The next fastest growing income bracket for computer penetration was $25,000-$34,999. In that group, 44.6% of households owned a computer, an increase of 25% from the 35.8% penetration rate in 1998. In August 2000, 17.0% of rural households at the lowest income level owned a computer, contrasted with 19.9% of households with less than $15,000 income in urban areas and in central cities.

At income levels of more than $75,000, 86.3% of households had a computer, up from 79.9% in 1998. The ownership rate in central cities (83.7%) trailed the national average at that income.

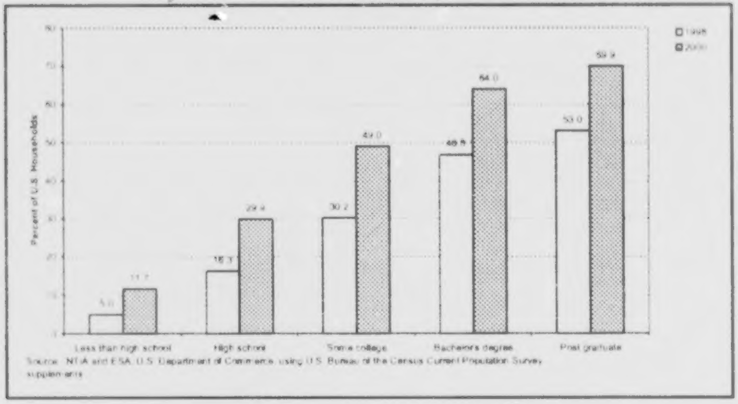
For all three income categories above $35,000, rural households were as likely as their urban peers to have a computer at home.

Data relating to computer ownership by income can be found in the Appendix, Figures A3 and A5.

EDUCATION

Home computer and Internet access rates vary by the education level of the reference person or householder (a person residing in the housing unit who owns it or is responsible for its rent). Better educated adults are more likely to use and become familiar with computers and the Internet at work or through their school experiences. In December 1998, 53.0% of households headed by a person with education beyond college had Internet access. That surpassed the access rate for households headed by a person with a bachelor's degree (46.8%), those with some college experience (30.2%), those with some college experience (16.3%), and those with less than a high school diploma (5.0%).

Figure I-8
Percent of U.S. Households with Internet Access
By Education of Householder, 1998 and 2000



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

The same patterns existed in August 2000, although rates have soared for all educational levels in the last 20 months. Of households headed by someone with post-college education, 69.9% had Internet access. That compares to households headed by someone with a college degree alone (64.0%), those with some college experience (49.0%), those educated beyond high school but no college degree (29.9%), and those with less than a high school degree (11.7%).

The 1998-2000 expansion rates were highest for those at lower levels of education. For example, Internet access expanded by 135% for those with less than a high school education, by 62% for those with some college, and by 32% for those with post college education.

The median level of education among adult family heads is some college. This group had a larger point gain over the last 20 months 19 points than households in the two higher education categories with 17 point gains each. Data relating to Internet access and computer ownership by education level can be found in the Appendix, Figures A6 and A12.

The interplay between education and income levels is worth examining more closely. Although both of these factors correlated with Internet access, as we have seen, they are also linked to each other. In terms of home Internet access rates, the ratio of the highest group to the lowest is more than five to one for both the income and education categories in Table I-2. Since the two are so correlated, we have examined whether just one factor is dominant and the other represents a misleading correlation, or whether both are independently associated with Internet access.

Figure I-9 presents some evidence that both income and education are independently associated with Internet access. Although the average Internet access rate for incomes of $75,000 and greater is 77.7%, it ranges from 82% for those with a college degree or more down to 51% for those with less than a high school education. Likewise, households with incomes between $15,000 and $34,999 had an average access rate of 28%, ranging from 46% for college or more down to 11% for less than high school. The same wide disparities occur within education categories. For example, among households in which the householder had some schooling beyond high school but not a college

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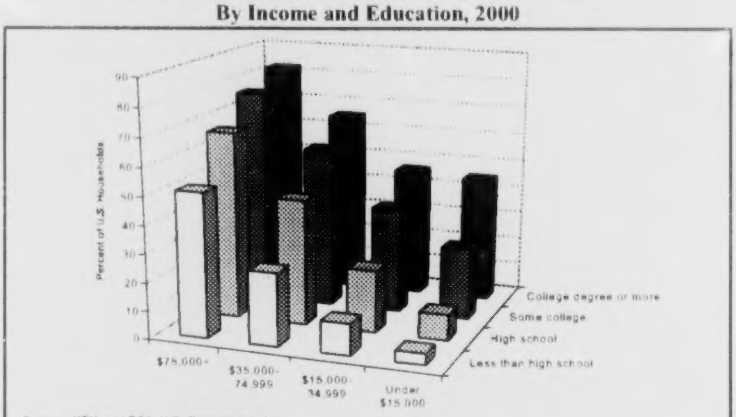
degree, home Internet access reached 76% in the over $75,000 income group but only 26% in the under $15,000 income group. Among households with incomes below $15,000 and less than a high school education, only 4% had Internet access at home.

Figure I-9
Percent of U.S. Households with Home Internet Access
By Income and Education, 2000



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

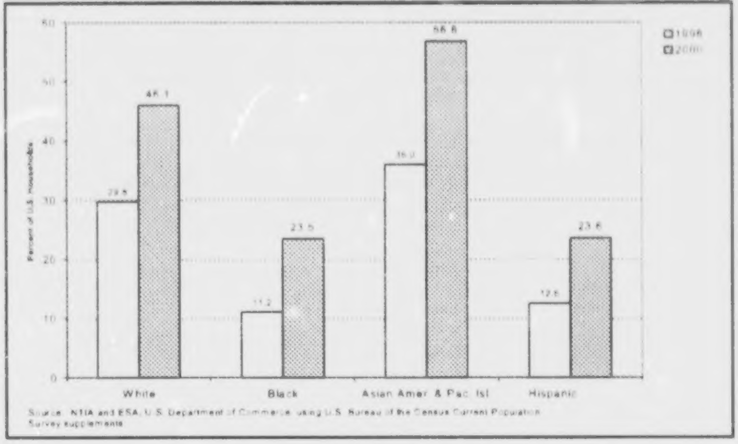
Once again, groups with higher initial penetration rates generally had large point gains but lower than average expansion rates, as shown in Table I-2. Those with the lowest incomes and education had much lower initial home Internet rates in 1998; however, they had the largest expansion rates. Although the expansion rate for the country was 58%, no group with post high school education and incomes above $35,000 had expansion rates that large. Among those with at least a college degree, only those with the lowest household incomes had expansion rates above the national average.

The largest point gains (between 20 to 22 points) were registered by those with incomes above $75,000 and less than a college degree and those with $35,000 to $74,999 in income and some college education. Indeed, households with incomes more than $75,000 and at least a college degree have reached the flattening stage of the "S-Curve." Their 16.3 point gain leaves that group so close that they would hit 100% in less than two years if they continued at the recent pace.

RACE AND ETHNICITY

Between December 1998 and August 2000, there has also been a surge in uptake of Internet and computer access among households of different ethnic and racial origins.

Figure I-10
Percent of U.S. Households with Internet Access
By Race/Hispanic Origin, 1998 and 2000



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

Households of Asian Americans and Pacific Islanders have maintained the greatest Internet penetration at 56.8% in 2000. This group has also experienced the most dramatic growth in home Internet access in the last two years: an increase of 20.8 percentage points (from 36.0% in 1998). White households continued to have the second highest rate of access at 46.1% and experienced a growth of 16.3 percentage points (from 29.8% in 1998).

At the other end of the spectrum, Black and Hispanic households continue to experience the lowest Internet penetration rates (at 23.5% and 23.6%, respectively). Internet uptake by Black and Hispanic households has been strong in the last two years, however, as shown in Figure I-11. Between December 1998 and August 2000, access among Black households doubled from 11.2% in 1998 to 23.5% in 2000, a gain of 12.3 percentage points. Hispanic households' access increased 11 percentage points (from 12.6% in 1998 to 23.6% in 2000).

There is significant variation in Internet access and computer ownership within subgroups of these broad categories. For example, although Asian Americans and Pacific Islanders have high rates of connectivity as a group, there are subgroups that have lower rates of access due to lower income levels, educational attainment, or other reasons. By the same token, Blacks and Hispanics have high levels of connectivity despite lower rates overall.

This report does not include separate data on American Indians, Aleuts, and Eskimos (AIAE) because the sampled population from that group is too small for credible results.[7]

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[7] Last month, for the first time in its long-running reports on poverty and income, the Census Bureau did include results for AIAE, but only by pooling the last three years of data collected. We do not have three years of data collected on a comparable basis to produce separate numbers for AIAE. Data for AIAE households can be found, however, in the public use file which can be found at www.ntia.doc.gov, www.esa.doc.gov, and at www.bls.census.gov/cps/ cpsmain.htm.

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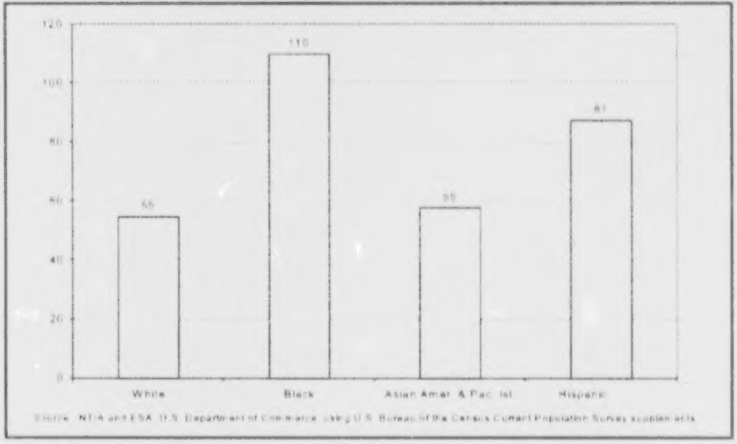
Figure I-11
Rate of Growth of Internet Penetration
By Race/ Hispanic Origin, 1998 to 2000



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

Although the percentage point change for Blacks and Hispanics was not as high as that for Asian Americans and Pacific Islanders or Whites, their rates of growth between 1998 and 2000 were striking. Internet access among Black households more than doubled (a 110% increase) between 1998 and 2000, while Hispanic households' access grew 87% in the same period. This compares to a growth rate of 55% for White households and 58% for Asian American and Pacific Islanders households.

Internet access among racial and ethnic groups continues to differ by geography and income level. With regard to geography, almost all groups have a slightly higher Internet penetration rate in urban areas (48.3% for Whites, 24.0% for Blacks, and 23.9% for Hispanics). Groups in rural areas, on the other hand, have experienced significantly lower penetration rates (40.9% for Whites, and 19.9% for Blacks and Hispanics). The survey's sample of rural Asian Americans and Pacific Islanders is too small for valid comparisons with their urban counterparts.

Income also affects whether households of different ethnic and racial backgrounds have Internet access. Households earning above $75,000 are highly likely to have Internet access (78.6% for Whites, 70.9% for Blacks, 63.7% for Hispanics, and 81.6% for Asian Americans and Pacific Islanders). The rates of connectivity decline significantly as income declines, although less so for Asian Americans and Pacific Islanders households. While Hispanics and Blacks are particularly unlikely to have Internet access at incomes below $15,000 (5.2% and 6.4%, respectively), 33.2% of Asian Americans and Pacific Islanders households in that lowest income bracket have Internet access.

Because income and education are so highly correlated with whether households have Internet access, the question arises as to whether those factors might fully explain the observed gaps

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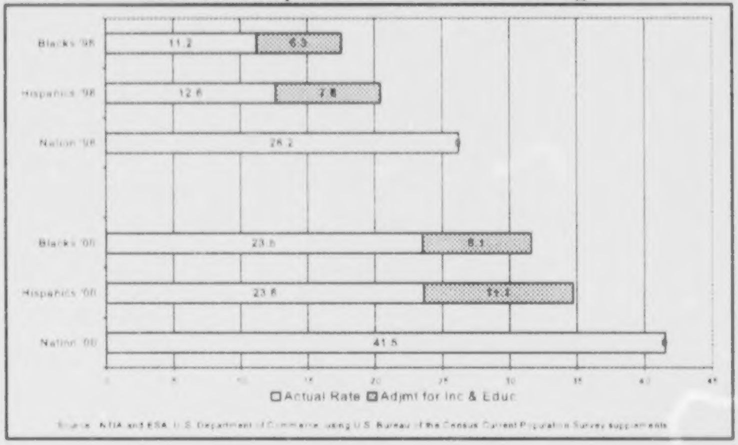
between the national average and the rates for Blacks and Hispanics. Those two groups as a whole have lower incomes and lower education levels than the national average.

Differences in overall income and educational levels of Blacks and Hispanics do not fully account, however, for their lower levels of home Internet access. After adjusting for the effects of lower average income and educational attainment with shift-share analysis,[8] we observe that: (1) roughly half of the gap remains; (2) both groups made roughly the same gains over the last 20 months as the national average; and (3) both groups, on this adjusted basis for August 2000, had substantially surpassed the national average for December 1998. Figure I-12 depicts the results of this shift-share analysis. In August 2000, both Blacks and Hispanics had home Internet access 18 points below the national average. The effects of having levels of income and education lower than the national average, however, accounted for 8 percentage points of the gap for Blacks and for 11 percentage points of the gap for Hispanics.

Figure I-12
Income and Education Differences Account for Half of the Gap between Blacks and Hispanics and the National Average



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

Over the 20 months from December 1998 to August 2000, the share of homes online rose by 12 points for Blacks, by 11 points for Hispanics and by 15 points for the country as a whole. However, on an income- and education-adjusted basis, Blacks and Hispanics each rose by 14 points, which is essentially equivalent to the national gain. The 32% penetration rates for Blacks and the 35% for Hispanics on an adjusted basis for August 2000, while far short of the national average of 42%, were both well above the national rate of 26% in December 1998.

Data relating to Internet access among households of different races and ethnic origins can be found in the Appendix, Figures A10-A11.

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[8] In this shift-share analysis, we used the actual Internet access rates for each of the possible combinations of income and education levels provided in the Census data for Blacks and Hispanics separately. We then calculated what the Internet access rate among Blacks and Hispanics would have been if the share of Blacks and Hispanics in each of the income-education combinations had been the same as the national average.

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The Internet Divide Continues

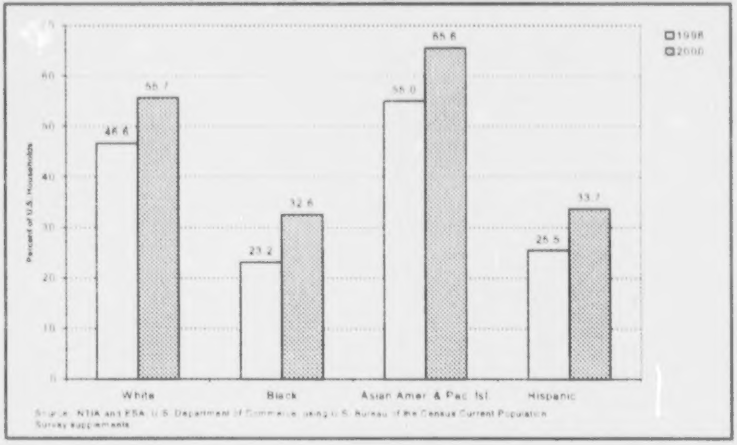
Substantial disparities have continued to widen, both when comparing Blacks and Hispanics against the national average and when comparing them against Whites. The divide between the Black household Internet access rates and the national average rate increased 3.0 percentage points, from 15.0 percentage points in December 1998 to 18.0 percentage points in August 2000. The divide between Hispanic households and the national average rate increased 4.3 percentage points, from 13.6 percentage points in December 1998 to 17.9 percentage points in August 2000.

A similar widening occurred between racial groups. Between October 1997 and December 1998, the gap between White and Black households grew 5.1 percentage points, from a 13.5 percentage point difference in 1997 to a 18.6 percentage point difference in 1998. In the 20- month period between December 1998 and August 2000, the divide between White and Black households increased 4 percentage points, resulting in a percentage point difference of 22.6 points between White and Black households. The gap between White and Hispanic households grew 4.7 percentage points between 1997 and 1998, and then continued to widen even further (by 5.3 percentage points) between 1998 and 2000.

Between Asian Americans and Pacific Islanders and Whites, the gap grew from 6.2 percentage points in 1998 to 10.7 percentage points in 2000. No 1997 data are available for Asian Americans and Pacific Islanders.

While this measure of the Internet divide continued to widen, the high rates of expansion for Blacks and Hispanics suggest that, in time, this widening will subside. If computer ownership provides any pattern, we may soon see some stabilization and perhaps even narrowing of the Internet divide.

Figure I-13
Percent of U.S. Households with a Computer
By Race/Hispanic Origin, 1998 and 2000



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements.

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The Computer Divide Has Stabilized

Households of different ethnic and racial backgrounds also had disparate rates of ownership of computers. As with Internet access, households of Asian Americans and Pacific Islanders continue to exhibit the highest penetration rates (65.6%), followed by White households (55.7%), Hispanics (33.7%), and Blacks (32.6%).

All ethnic groups experienced comparable increases in computer penetration since 1998: ownership in 2000 was 10.6 percentage points higher for Asian Americans and Pacific Islanders, 9.4 percentage points higher for Blacks, 9.1 points higher for Whites, and 8.2 points higher for Hispanics.

As with Internet access, computer ownership is strongly influenced by income. Households earning more than $75,000 are consistently likely to own computers: 87.0% for White households, 86.9% for those of Asian Americans and Pacific Islanders, 83.4% for Blacks, and 76.1% for Hispanics. The computer divide becomes more pronounced at lower income levels, although less so for households of Asian Americans and Pacific Islanders. At incomes less than $15,000, Black households and Hispanic households are particularly unlikely to have computers (11.5% and 12.5%), compared to White households (22.8%) and Asian American and Pacific Islander households (39.4%).

Geography also plays a role in a household's likelihood of owning a computer. In general, those in rural areas are less likely to own computers (51.8% for Whites, 28.8% for Hispanics, and 27.5% for Blacks), while households in urban areas exceed the national average (57.3% for Whites, 34.2% for Hispanics, and 33.3% for Blacks).

Perhaps most significantly, the data show that digital divide regarding computer penetration has stabilized. Large gaps remain between the share of Black and Hispanic households with a computer and the national average, but the gaps did not widen from 1998 to 2000. The divide between the percent of Black households with a computer and the national average rate declined 0.5 percentage points, from 18.9 percentage points in December 1998 to 18.4 percentage points in August 2000. The divide between the percent of Hispanic households with a computer and the national average rate increased 0.7 percentage points, from 16.6 percentage points in December 1998 to 17.3 percentage points in August 2000.

Because computer penetration for White, Black, and Hispanic households increased by comparable amounts, the gaps in computer penetration when comparing these groups of households have also stabilized. The gaps widened from 1994 to 1998, but did not widen further from 1998 to 2000. Data relating to computer ownership among households by race and ethnic origin can be found in the Appendix, Figures A4-A5.

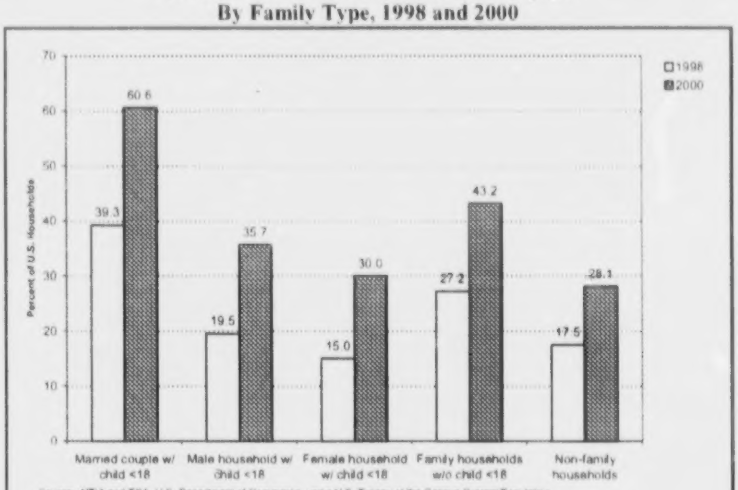
HOUSEHOLD TYPE

The makeup of a household –such as the presence or absence of children, and whether there are one or two parents– is also associated with that household's likelihood of having computer and particularly Internet access. Even here, however, single-parent households have made great strides since December 1998, and are catching up to dual-parent households at higher income levels. Data relating to Internet access and computer ownership by household type can be found in the Appendix, Figures A7 and A13.

Internet Access is Highest for Households with Two Parents, Although Single Parent Households are Making Gains

Households with two parents and children have much higher rates of Internet access than other family types. As in 1998, married couples with children under 18 are far more likely to have Internet access (60.6%) than married couples without children (43.2%). This high connectivity rate for couples with children holds true regardless of whether they live in urban areas (61.5%), rural areas (58.3%), or central cities (55.1%). Those in "non-family households" (single or unmarried people), on the other hand, are the least likely to have Internet access (at 28.1%). Of all household types, non-family households in rural areas are the least likely to have Internet access (20.2%).

Figure I-14
Percent of U.S. Households with a Computer
By Family Type, 1998 and 2000



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

Having one or two parents is also related to whether a family has Internet access. Two-parent households are nearly twice as likely to have Internet access as single-parent households (60.6% for dual-parent, versus 35.7% for male-headed households with children less than 18 years of age, and 30.0% for female-headed households with children less than 18 years of age). Female-headed households in central cities are particularly unlikely to have Internet access (22.8%), as are male-headed households in rural areas (30.3%).

The differences among household types are most distinct at the middle income levels. At incomes below $15,000, on the other hand, the disparities diminish somewhat: 19.7% for dual-parent households; 14.5% for male-headed households; 12.6% for female-headed households; 13.5% for family households without children; and 11.4% for non-family households. Similarly, the gap narrows at incomes above $75,000: 84.4% for dual-parent households; 69.4% for male-headed

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households; 67.9% for female-headed households; 74.5% for family households without children; and 68.4% for non-family households.

While single parents trail significantly behind two-parent households in Internet access, they have shown the most change since 1998. Connectivity among female-headed households doubled between 1998 and 2000 (from 15.0% to 30.0%). Connectivity among male-headed households also grew substantially (by 83%) from 19.5% in 1998 to 35.7% in 2000. In time then, the gap between single and dual-parent households may close, as is already becoming apparent at the highest income level.

Computer Penetration Highest for Dual-Parent Households at Highest Income Level

As with Internet access, computers are far more likely to be in households with children and two parents. Married couples with children under 18 years of age own computers at much higher rates (73.2%) than married couples without children (52.5%), male-headed households (45.6%), female-headed households (42.9%), or "non-family" (single or unmarried) households (34.6%). Despite these differences, the disparities among these groups are less dramatic than with Internet access, perhaps because computers are more prevalent as an older and more widely-adopted technology. As with Internet access, single-parent families have also shown the greatest rate of growth in the last two years (30.3% for male-headed households, and 35.3% for female-headed households), suggesting that the gap between dual-parent and single-parent families may begin to close in time.

Again, we find differences by location. Female-headed households and male-headed households in central cities are much less likely to own computers (34.9% and 43.1%, respectively) than those in rural or urban areas. By contrast, computer penetration declines in rural areas for households *without* children (48.0% for family households without children, and 26.2% for single/unmarried households).

Computer ownership also varies by income. Particularly notable is the high penetration rate of computers in families earning $75,000 or more. Dual-parent families in this high-income bracket have a 93.1% penetration rate. That is, nearly every household falling into this group has a computer. Computer penetration is also high for other household types at this income level: 84.2% for male-headed households; 82.3% for female-headed households; 82.8% for households without children; and 76.6% for non-family households.

Computer penetration drops dramatically at the lowest income levels for almost all households types. The significant exception is for married couples with children: one-third (33.3%) of these families still own computers even at incomes below $15,000. This relatively high penetration rate suggests that computers are becoming an affordable and desirable purchase for many families, even for those in the lowest income bracket.

HOUSEHOLDS WITH COMPUTERS AND INTERNET ACCESS BY STATE

The figures on home computer and Internet access at the state level also show wide disparities but remarkably strong growth throughout the country. (Tables I-A and I-B) The gap between the top tier of states and the bottom tier has narrowed for computers and it has remained roughly stable for Internet access.

In December 1998, computer ownership ranged from percentages in the low 60s for the top tier of states to the 26% to 28% range for the bottom tier of states. By August 2000, a few states had reached computer ownership percentages in the mid-60s while no state was estimated to have fewer than 37% of homes with computers. Thus, the range between the highest states and the lowest states narrowed by about 10 percentage points, from the high 30s to the high 20s.

Internet penetration rates for December 1998 were estimated as low as the 14% to 18% range (Arkansas, Mississippi, Louisiana, and West Virginia), while four states (Colorado, New Hampshire, Utah, and Washington) had reached the 35% to 37% range. Alaska was even estimated at 44%. By August 2000, estimates for six states had reached at least 50% (Alaska, Colorado, Connecticut, Delaware, New Hampshire, and Oregon) and only two states were estimated below 30% (Arkansas and Mississippi). As found for the groups with the lowest penetration rates in terms of income, education, and race/ethnicity, some of the lowest state penetration rates were found to have doubled over this 20 month period.

Table I-A. Percent of Households with Computers, by State: 2000

(Numbers in thousands)

State	Total Households	Percent with Computers	90% Confidence Interval
Alabama	1,742	44.2	2.83
Alaska	219	64.8	2.96
Arizona	1,832	53.5	2.70
Arkansas	1,041	37.3	2.72
California	12,129	56.6	1.20
Colorado	1,636	62.6	2.73
Connecticut	1,235	60.4	3.29
Delaware	290	58.6	3.21
Florida	6,235	50.1	1.48
Georgia	3,066	47.1	2.52
Hawaii	386	52.4	3.61
Idaho	491	54.5	2.71
Illinois	4,566	50.2	1.74
Indiana	2,347	48.8	2.86
Iowa	1,136	53.6	2.95
Kansas	1,010	55.8	2.96
Kentucky	1,614	46.2	2.82
Louisiana	1,650	41.2	2.78
Maine	508	54.7	3.13
Maryland	2,076	53.7	3.04
Massachusetts	2,407	53.0	2.17
Michigan	3,709	51.5	1.86
Minnesota	1,799	57.0	2.91
Mississippi	1,059	37.2	2.81
Missouri	2,155	52.6	2.98
Montana	360	51.5	2.79
Nebraska	637	48.5	3.04
Nevada	690	48.8	2.99
New Jersey	3,091	54.3	1.92
New York	6,971	48.7	1.34
New Hampshire	474	63.7	3.22
New Mexico	667	47.6	2.89
North Carolina	3,047	45.3	2.07
North Dakota	246	47.5	3.01
Ohio	4,351	49.5	1.81
Oklahoma	1,338	41.5	2.69
Oregon	1,280	61.1	2.99
Pennsylvania	4,720	48.4	1.68
Rhode Island	402	47.9	3.23
South Carolina	1,557	43.3	2.98
South Dakota	289	50.4	2.87
Tennessee	2,220	45.7	2.90
Texas	7,353	47.9	1.52
Utah	707	66.1	2.76
Vermont	242	53.7	3.21
Virginia	2,722	53.9	2.74
Washington	2,323	60.7	2.93

Washington, DC	254	48.8	2.97
West Virginia	744	42.8	2.65
Wisconsin	2,031	50.9	2.86
Wyoming	193	58.2	2.91

Table I-B. Percent of Households with Internet Access, by State: 2000
(Numbers in thousands.)

State	Total Households	Percent with Internet	90% Confidence Interval
Alabama	1,742	35.5	2.73
Alaska	219	55.6	3.08
Arizona	1,832	42.5	2.68
Arkansas	1,041	26.5	2.49
California	12,129	46.7	1.21
Colorado	1,636	51.8	2.82
Connecticut	1,235	51.2	3.37
Delaware	290	50.7	3.26
Florida	6,235	43.2	1.46
Georgia	3,066	38.3	2.46
Hawaii	386	43.0	3.58
Idaho	491	42.3	2.69
Illinois	4,566	40.1	1.71
Indiana	2,347	39.4	2.79
Iowa	1,136	39.0	2.88
Kansas	1,010	43.9	2.96
Kentucky	1,614	36.6	2.72
Louisiana	1,650	30.2	2.59
Maine	508	42.6	3.11
Maryland	2,076	43.8	3.03
Massachusetts	2,407	45.5	2.16
Michigan	3,709	42.1	1.84
Minnesota	1,799	43.0	2.91
Mississippi	1,059	26.3	2.56
Missouri	2,155	42.5	2.95
Montana	360	40.6	2.74
Nebraska	637	37.0	2.93
Nevada	690	41.0	2.94
New Hampshire	474	56.0	3.33
New York	6,971	39.8	1.31
New Jersey	3,091	47.8	1.92
New Mexico	667	35.7	2.78
North Carolina	3,047	35.3	1.99
North Dakota	246	37.7	2.93
Ohio	4,351	40.7	1.78
Oklahoma	1,338	34.3	2.59
Oregon	1,280	50.8	3.07
Pennsylvania	4,720	40.1	1.64
Rhode Island	402	38.8	3.15
South Carolina	1,557	32.0	2.81
South Dakota	289	37.9	2.78
Tennessee	2,220	36.3	2.80
Texas	7,353	38.3	1.48

Utah	707	48.4	2.92
Vermont	242	46.7	3.22
Virginia	2,722	44.3	2.73
Washington, DC	254	39.6	2.90
Washington	2,323	49.7	3.00
West Virginia	744	34.3	2.54
Wisconsin	2,031	40.6	2.81
Wyoming	193	44.1	2.93

A NEW DIMENSION: HIGH-SPEED INTERNET ACCESS

One of the bonanzas of rapid technological change has been the development of infrastructure featuring wider bandwidth and faster transmission speeds. This diffusion of the higher-speed access services, generally classified as "broadband," has only just begun.[9] This year's report presents the results from the first systematic data collection on user access to high-speed broadband service that has been undertaken in a large scale personal interview survey with a very high response rate.[10]

In August 2000, 10.7% of online households (about 4.5% of all U.S. households) had broadband-speed access. The remaining 89.3% of online households (37.0% of all U.S. households) connect to the Internet by regular dial-up phone service.

Among total broadband households, the overwhelming majority either procure cable modems (50.8%) or DSL (33.7%) (See Figure I-15). Wireless and satellite (4.6%) and other telephone-based technologies such as ISDN (10.9%) account for much lower percentages. Broadband preferences can vary, however, by demographic characteristics. For example, the youngest householders prefer DSL (50.1%) over cable modems (42.7%), whereas other age groups use relatively more cable modems than DSL. Location also matters: in central cities, DSL (38.2%) and cable modem (44.2%) penetrations are relatively close; this contrasts with urban broadband households (which includes central cities and the suburbs), where the cable modem rate (51.1%) significantly exceeds that for DSL (33.6%). Regions also produce some wide variations. For example, the West demonstrates a balance between its DSL (43.1%) and cable modem (41.9%) diffusion; this contrasts with the Northeast's clear preference for cable modems (62%) over DSL (24.5%).[11]

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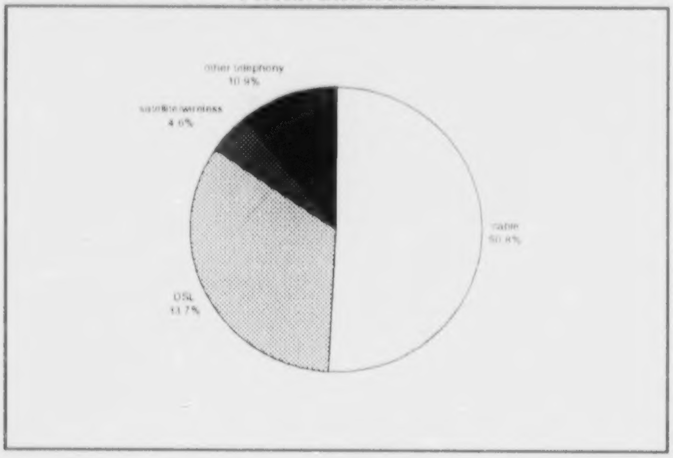
[9] The term "broadband" is used in this study to include the two most common technologies, Digital Subscriber Line (DSL) and cable modems, as well as such technologies as Integrated Services Digital Network (ISDN). These technologies usually feature broadband capabilities although some applications or connections may possess speeds lower than the 200 kilobits per second that the Federal Communications Commission defines as broadband. Although a technology that appears to be on the brink of widespread high-speed capabilities, wireless is more often narrowband in its current applications.

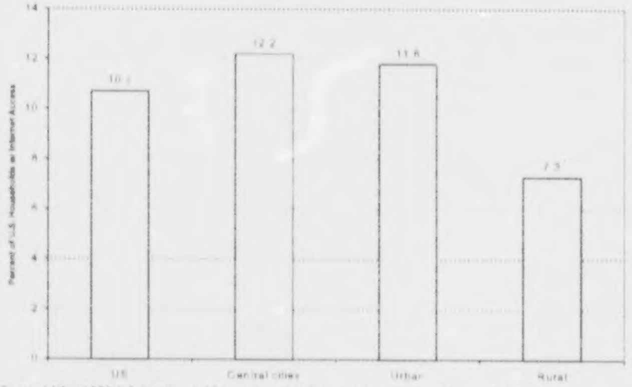
[10] Survey respondents who stated that they were online at home were asked whether they accessed the Internet through regular "dial-up" telephone lines or whether they had selected a higher-speed form of connectivity. Where respondents indicated they had obtained a faster connection, they were also asked to identify the type of access used - - Digital Subscriber Lines (DSL), Integrated Services Digital Network (ISDN), cable modems, wireless, or other. Today a relatively small proportion of households access the Internet at higher speeds. The survey results will create an important baseline to measure growth in high speed Internet access. Data relating to speed of Internet access can be found in the Appendix, Figures A15-A22.

Figure I-15
High Speed Internet Access, 2000
Percent Distribution



Broadband penetration differs by location as shown in Figure I-16: central city (12.2%) vs. urban (11.8%) vs. rural (7.3%) vs. U.S. (10.7%). Regional variations occur, as well: the West (11.9%) surpasses the Midwest (9.2%), while the Northeast (11.0%) and South (10.7%) rank between the two. The West has both the nation's highest rate for central city areas (13.0%) and the lowest rate for rural environs (5.9%).

Figure I-16
High Speed Internet Access By U.S., Rural, Urban, and Central Cities, 2000, Percent of U.S. Households with Internet Access



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

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[11] A separate discussion of the roll out of broadband services is contained in the April, 2000, report *Advanced Telecommunications in Rural America: The Challenge of Bringing Broadband Service to All Americans* produced by the U.S. Departments of Commerce and Agriculture. That report found DSL and cable modem services are more readily available in urban areas.

The penetration rate generally rises as household income increases because broadband access costs more than regular dial-up Internet access. Among those online households with family income of less than $15,000, only 7.7% selected faster access modes, the lowest rate of any income bracket. Conversely, the most affluent households (with incomes $75,000 and greater) exhibit the highest proportion of broadband at 13.8%, or more than double the above low-income penetration rate. The lowest bracket (under $5,000) breaks the pattern, yielding one of the highest percentages (9.9%); this may reflect the presence of students who desire higher transmission speeds for school or simply attach a higher priority to faster access.

Educational attainment above the level of high school also affects broadband percentages. Those with college degrees (12.5%) exceed the national penetration rate for all households (10.7%). The households where education levels were high school or less trailed substantially with rates less than 9%. Householders with at least some college (9.9%) ranked in between the two extremes but below the national average.

Purchase of faster transmission rates tends to be inversely related to age. The youngest householders boast the highest broadband penetration (12.3%) –perhaps reflecting the student factor– while seniors rank the lowest (9.0%). Interestingly, the age group between 45 and 54 can claim one of the highest penetration rates (11.2%). Internet access speeds vary by race and origins as well, with minorities registering both the highest and lowest diffusion rates. Asian American and Pacific Islander households have the highest broadband rate (11.7%), followed by Whites (10.8%). Blacks (9.8%) and Hispanics (8.9%) rank lowest.

Both the number of parents and gender type are correlated with broadband access rates. Thus, male householders with children rank highest (12.6%), while female-headed families rank lowest (8.2%). Two-parent families and families without children both exhibit broadband penetrations (10.6%) approximating the national average; non-family households (11.7%) exceed this average by a full percentage point.

NON-INTERNET HOUSEHOLDS

As of August 2000, 41.5% of the Nation's 105 million households, or 43.6 million homes, had Internet access. Thus, 58.5% of households (61.6 million) were *not* connected electronically. In contrast, in December 1998 there were 76.5 million unconnected households (73.8%). This movement represents a substantial *decline* in both the proportion (15.3 percentage points) and number (a drop of 14.9 million) of non-Internet households relative to 20 months earlier.

As of August 2000, the number of households that had computers but no Internet access was 10.8 million, down from 16.9 million in December 1998, a decline of 36%. During that time frame, the proportion of PC households without access fell from 38.4% to 19.8%.

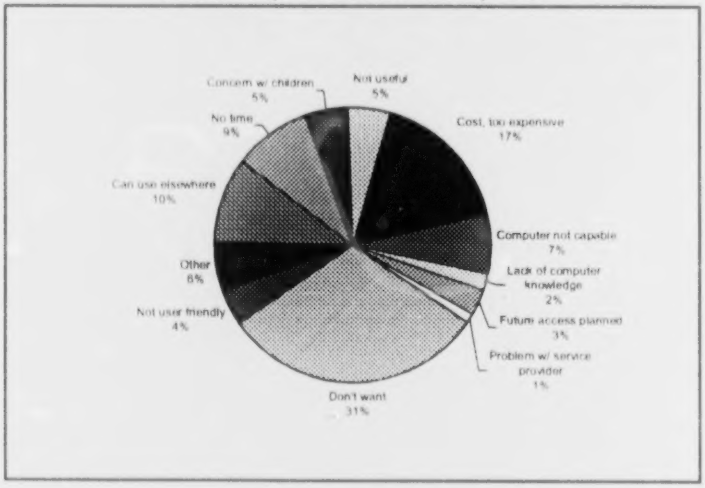
A household may not be connected to the Internet for a number of reasons. In terms of its historical experience, a household may have never been connected, or it may have decided to discontinue its Internet use. We address these situations below.

WHY HOUSEHOLDS WITH COMPUTERS HAVE NEVER HAD INTERNET ACCESS

Within computer households, there are a number of households that have never had an Internet connection. In August 2000, these households totaled 8.7 million. This figure represents a sizeable decline from December 1998, when the count equaled 14.4 million, or 66% higher than the 2000 figure.

During the 2000 survey, "never-connected" households provided a number of reasons for not accessing the Internet at home (See Figure I-17). The most dominant reason was "don't want it" (30.8%). The second most common response: "cost, too expensive" (17.3%). Other leading reasons for non-access included "can use elsewhere" (10.4%), "not enough time" (9.1%), and "computer not capable" (6.7%). These data are similar to the breakdown reported from the December 1998 data, which found the reasons to be: don't want (25.7%) followed by reasons of cost (16.8%), use elsewhere (9.6%), and no time (8.7%). In fact, the proportions for these major categories remained basically the same, with the notable exception of the top (don't want it) category, which increased by 5 percentage points.

Figure I-17
Reasons for U.S. Households with a Computer/WebTV Never Accessing the Internet, Percent Distribution, 2000



Not surprisingly, for low-income households, cost prevails as the most important reason for never connecting. For those households under $15,000, one-third of respondents (32.6%) cited cost, and slightly more than one-quarter cited "don't want it" (26.6%). In contrast, the over-$75,000 bracket reversed the order of importance: "don't want it" (30.8%) surpassed cost (9.4%). The cost/don't-want-it nexus occurred at $20,000: those brackets below this threshold ranked cost number one, while those above placed "don't want it" first.

Cost affects other groups that have a computer but never had online access, as well. For example, more than one in four (26.1%) of the youngest householders (under 25 years of age) regard Internet connectivity as too expensive, rating it over "don't want it" (19.1%) as the primary reason for non-access in their households. Female householders with children also point to cost as the most important reason for non-access, with 29.9% of respondents citing this factor versus 22.5% stating that they "don't want it."

Unlike youngest householders, those in other age brackets regard "don't want it" as more important than cost; this is particularly true for seniors (55 years and older), where "don't want it" (40.4%) significantly outranks cost (14.5%). All major race/ethnic groups regard "don't want it" as more important than the cost factor. This pattern holds for Whites (31.5% vs. 16.4%), Asian Americans and Pacific Islanders (30.4% vs. 13.0%), and Blacks (31.4% vs. 18.2%); it also holds for Hispanics but the differential is much less (25.5% vs. 23.7%).

The same relative rankings of "don't want it" vs. cost occur when viewed by levels of educational attainment: the difference is most pronounced for those householders with college degrees (29.3%, 11.6%), some high school (36.9%, 20.4%), or a high-school diploma (32.9%, 17.4%), and least for some college (28.3%, 20.4%). All household types except female-headed families have the same relative rankings, with male householders with children (36.5%, 22.5%) dramatically reversing the order from the 1998 survey (18.7%, 23.2%). While employed households (27.8%, 17.7%) continued the pattern established in December 1998 (23.5%, 16.5%), unemployed households (30.9%, 28.9%) experienced a major swap of rankings compared to the previous survey (13.3%, 38.2%).

Data relating to households with computers not using the Internet can be found in the Appendix, Figures A41-A45.

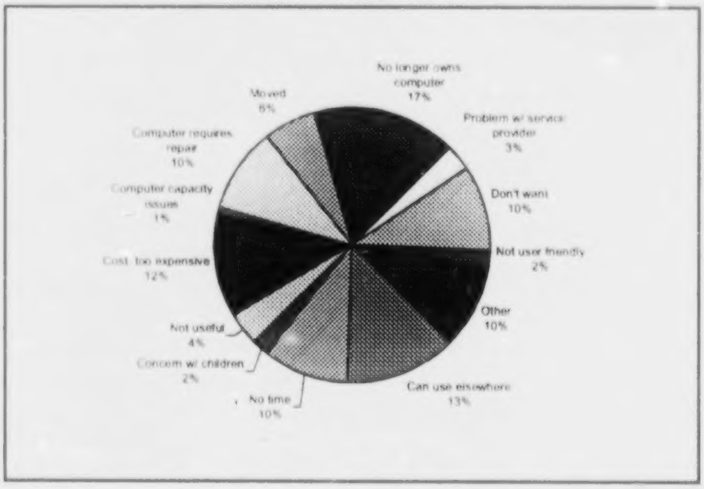
In sum, the number and proportion of never-connected households with computers have decreased since December 1998. Overall, the most important reasons are "don't want it" and "cost, too expensive." The former has grown in importance for a number of groups, while cost remains the paramount reason for lower-income households and a few other groups.

WHY HOUSEHOLDS WITH COMPUTERS HAVE DISCONTINUED INTERNET ACCESS

In August 2000, there were 4.0 million Internet "drop-offs" (*i.e*, those households that once had but do not currently have electronic access). That number is essentially unchanged from the 4.1 million "drop-offs" in December 1998.

Respondents to the August 2000 survey cited several principal reasons for their households' decisions to discontinue their Internet access (See Figure I-18). The leading factor noted was "no longer owns computers" (17.0%). Next in importance were "can use anywhere" (12.8%) and "cost, too expensive" (12.3%). The other key reasons were "don't want it" (10.3%), "not enough time" (10.0%), and "computer requires repair" (9.7%). Also provided as reasons were "moved" (6.1%), "not useful" (4.2%), "problems with ISP" (2.9%), "concern with children" (2.3%), "not user friendly" (1.5%), and "computer capacity issues" (1.2%). "Other" reasons – those that are too heterogeneous to be included elsewhere– were also given by respondents (9.8%).

Figure I-18
Reasons for U.S. Households Discontinuing Internet Access, Percent Distribution, 2000



These results reflect changes from the answers given in the December 1998 survey. In 1998, respondents identified "cost, too expensive" (15%) as the most important reason for dropping off the network. In 1998, the reason "no longer owns computer" ranked second (14%) and "can use anywhere" ranked fourth (9%). "Not enough time to use it" registered higher percentage (10% vs. 9%) in 2000 but slipped from third in 1998 to fourth in 2000. Respondents accorded "computer requires repair" about double the response rate from December 1998 (5%) to August 2000 but had the same ranking (sixth). "Don't want it" was the fifth most popular reason in 1998 (7%).

A more disaggregated look at the August 2000 survey results reveals additional insights. Data relating to discontinued Internet access can be found in the Appendix Table 1.

As a reason for discontinuing Internet access, "no longer owns a computer" ranks number one and cost is the number two reason for all income brackets except the highest ($75,000+). The most affluent income category respondents led with "can use elsewhere," "computer requires repair," "don't want it," and "not enough time."

Looking at different race and ethnic groups, "no longer owns computer" ranked highest for White households, followed by "can use elsewhere" and "cost." For Blacks, the ranking was "cost," "no longer owns," and "use elsewhere." Hispanic households cited "elsewhere," "no longer owns," and "cost."

Focusing on the level of educational attainment, the elementary education, some high school education, and some college education groups all identified the same two top reasons: "no longer owns computer" and "cost." The other two groups saw it differently. The high-school-degree group ranked cost first and "no longer owns" second. The college-degree group picked out "use elsewhere," followed by "no longer owns."

An examination of household types reveals some distinct differences. Married couples with children ranked "cost" and "not enough time" at the top of their list of major reasons. This contrasts with other household types, whose number one reason was "no longer owns computer": male householders with children, female householders with children, and non-family households.

All age categories except 35-44 year olds (for whom cost ranked first) rated "no longer owns computer" as the most important reason for disconnecting. The second-ranked reasons varied greatly: "can use elsewhere" for under-25 and 25-34 year olds; "computer requires repair" for 45-54 year olds; and "don't want it" for those householders at least 55 years old.

Thus, although variations exist for some specific demographic groups, August 2000 survey respondents generally identified an absence of a computer, reliance on other locations, and cost as the most important reasons for their households discontinuing their home Internet access. These reasons contrast with the responses of never-connected households, who cited "don't want it" as the most compelling reason for their non-access.

Table I-1
Percent of Households with a Computer

	December 1998	August 2000	Point change	Expansion rate
All	42.1	51.0	8.9	21.1
White Non-Hispanic	46.6	55.7	**9.1**	19.5
Black Non-Hispanic	23.2	32.6	**9.4**	**40.5**
Asian Amer. & Pac. Isl.	55.0	65.6	**10.6**	19.3
Hispanic	25.5	33.7	8.2	**32.2**
Less than $15,000	14.5	19.2	4.7	**32.4**
$15,000 - 24,999	23.7	30.1	6.4	**27.0**
$25,000 - 34,999	35.8	44.6	8.8	**24.6**
$35,000 - 49,999	50.2	58.6	8.4	16.7
$50,000 - 74,999	66.3	73.2	6.9	10.4
$75,000 and above	79.9	86.3	6.4	8.0
Less than High School	12.5	18.2	5.7	**45.6**
High School Graduate	31.2	39.6	8.4	**26.9**
Some College	49.3	60.3	**11.0**	**22.3**
College Graduate	66.9	74.0	7.1	10.6
Post Graduate	72.2	79.0	6.8	9.4
Rural	39.9	50.4	**10.5**	**26.3**
Urban	42.9	51.5	8.6	20.0
Central City	38.5	53.7	**15.2**	**39.5**

Bold indicates above the national average 8.9 point change and 21.1 % expansion rate.

Table I-2
Percent of Households with Internet Access

	December 1998	August 2000	Point change	Expansion rate
All	26.2	41.5	15.3	58.4
White Non-Hispanic	29.8	46.1	**16.3**	54.7
Black Non-Hispanic	11.2	23.5	12.3	**109.8**
Asian Amer. & Pac. Isl.	36.0	56.8	**20.8**	57.8
Hispanic	12.6	23.6	11.0	**87.3**
Less than $15,000	7.1	12.7	5.6	**78.9**
$15,000 - 24,999	11.0	21.3	10.3	**93.6**
$25,000 - 34,999	19.1	34.0	14.9	**78.0**
$35,000 - 49,999	29.5	46.1	**16.6**	56.3
$50,000 - 74,999	43.9	60.9	**17.0**	38.7
$75,000 and above	60.3	77.7	**17.4**	28.9
Less than High School	5.0	11.7	**6.7**	**134.0**
High School Graduate	16.3	29.9	**13.6**	**83.4**
Some College	30.2	49.0	**18.8**	**62.3**
College Graduate	46.8	64.0	**17.2**	**36.8**
Post Graduate	53.0	69.9	**16.9**	**31.9**
Rural	22.2	38.9	**16.7**	**75.2**
Urban	27.5	42.3	14.8	53.8
Central City	24.5	37.7	13.2	53.9

Bold indicates above the average 15.3 point change and 58.4 % expansion rate.

PART II

USE OF THE INTERNET BY INDIVIDUALS

As of August 2000, 116.5 million Americans were online—31.9 million more than only 20 months earlier. Internet users accounted for 44.4% of the U.S. population (age 3 and older), up from 32.7% in December 1998. This pattern of increasing Internet use held true at all income and education levels, for all age groups, for both men and women, for the employed and the unemployed and across all race and ethnic groups.

Groups that have historically been digital "have nots"—individuals who come from low-income households, individuals with low levels of education, minority groups (particularly Blacks and Hispanics), and older people are participating in this dramatic increase in Internet usage, but their use rates remain below the national average.

Whereas Part I examined household access, this section examines individual use. The person-based data and household-based data yield related, but not identical, rates of Internet use for factors that are common to the two data sets, such as income and race. Why these differences occur is explained in Box II-1 on page 35. Person-based data offer an understanding of ways in which *individuals* use the Internet. They offer the ability to examine demographic characteristics, such as age and gender, that are unique to individuals with no logical correspondence at the household level. These data offer insight into where individuals use the Internet—at home, outside the home, or in multiple places. And, where individuals are using the Internet from a location away from their home, these data provide insight into where they are getting that access. Finally, these data offer some information about the activities that individuals are undertaking while they are online.

Key insights offered by these data include:

- Individuals age 50 and older are among the least likely to be Internet users with Internet use rate of 29.6% in 2000. This age group, however, saw faster growth in Internet use than the country as a whole, with Internet use growing at a rate of 53% compared to 36% for the country as a whole. Age, however, is only part of the story. In August 2000, individuals age 50 and older were almost three times as likely to be Internet users if they were in the labor force.

- In August 2000, Internet use rates in the aggregate were virtually identical for men (44.6%) and women (44.2%). In December 1998, there was a gender gap in this measure—34.2% for men versus 31.4% for women.

- For some groups with Internet use rates below the national average, use at locations outside the home appears to be a factor in the growth of Internet use rates. Nationwide, a greater share of people used the Internet from their homes in August 2000 than in December 1998. However, Black Internet users were more likely than other Internet users to rely exclusively on Internet access from outside their homes.

- Most people who used the Internet from outside their homes reported using it at work or at school. Unemployed individuals were more likely to use it from another person's computer, or libraries.

- E-mail is still the Internet's most widespread application—79.9% of Internet users used e-mail. Among other online activities, shopping and bill paying saw the fastest growth. Low income unemployed people were the most likely to report using the Internet to look for jobs.

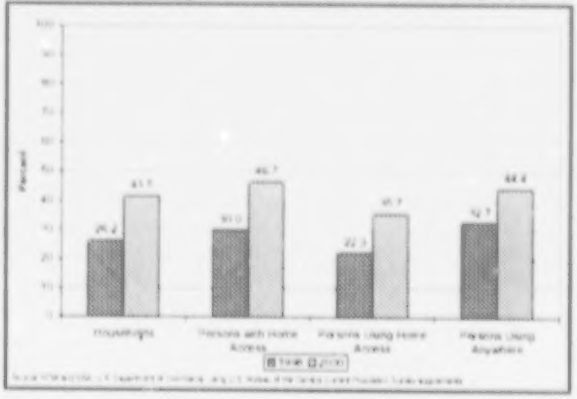
Person-based information is likely to become an even more important complement to the household-based measures in the future. We are already seeing the emergence of a world where Internet access is mobile. It travels with the individual rather than being a function of a physical place. For years, laptop computers have offered processing power and Internet access to individuals wherever they happened to be—at home, in the office, in hotels across the globe. Mobile devices, such as personal digital assistants and mobile phones, now offer Internet access anywhere via wireless connections.

Box II-1
The Relationship Between the Household- and Person-Based Measures

Household surveys provide information on both entire households and the individual persons within those households. The person data provide information on the number of people who have access to the Internet at home, how many are using that access, the extent of access at other locations, and the types of activities they are pursuing on the Internet.

As discussed in Part I, the number of households connected to the Internet rose from 26.2% in December 1998 to 41.5% in August 2000. But the proportion of Americans living in homes with Internet access is 13% larger than the proportion of households connected because households with Internet connections have 13% more people per household than the national average (line 4, Table II-9). As shown in the second pair of bars in Figure II-1, the share of Americans in homes online has surged from 30.0% in December 1998 to 46.7% in August, a gain of 0.84 a month. At that rate, a majority of Americans will have Internet access at home by the end of the year.

Figure II-1
Different Perspectives on Internet Access and Use



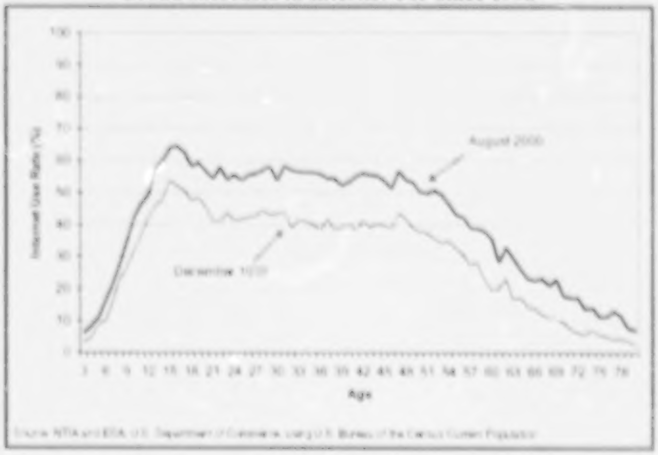
Seventy-six percent of people living in homes with Internet access were actually using the Internet from home (line 6, Table II-8). Thus, the August survey found that 35.7% of Americans were actually using the Internet at home, up from 22.3% in December 1998.

Another 8.6% of Americans in August were using the Internet but not from home. When they are added to those who use the Internet from home, the total share of the population using the Internet from any location stood at 44.4% in August, up from 32.7% twenty months earlier. If growth continues at this rate—almost 0.6% more Americans online per month—more than half of all Americans will be using the Internet by mid-2001.

INTERNET USE AMONG INDIVIDUALS

Almost 32 million people became Internet users during the 20 months between December 1998 and August 2000. As Figure II-2 shows, Internet use increased across the age distribution. More people at all ages were using the Internet. This figure, however, also illustrates that although Internet use increased across the board, Internet use rates are not equal across all age groups. A person's age as well as factors such as household income, race/ethnicity, gender, educational attainment, and labor force participation matter in the Internet use equation. This section explores these factors.

Figure II-2
Broad Increases in Internet Use Since 1998

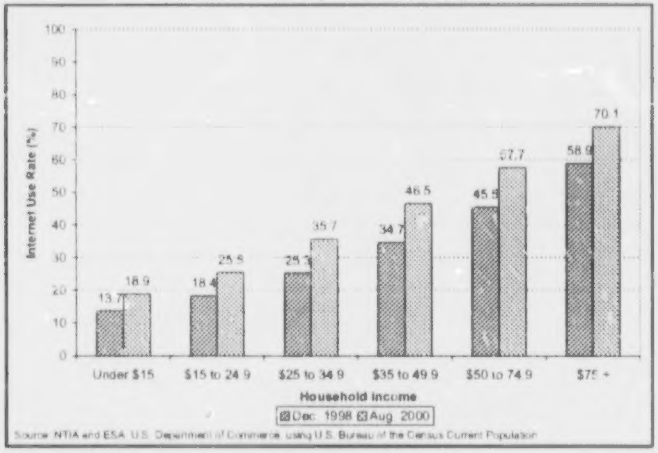


Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population

INCOME

While individuals in all income groups were more likely to be Internet users in 2000 than in 1998, Internet use rates were higher in higher income brackets. (Figure II-3.) Only 18.9% of individuals who lived in households with annual incomes of less than $15,000 were Internet users in August 2000. In contrast, 70.1% of people who lived in households where the annual income was greater than $75,000 reported using the Internet. Middle income groups saw the largest point gains while the lowest income groups had the fastest expansion rates, albeit from low starting levels. (See Table II-1)

Figure II-3
Internet Use by Income ($000)



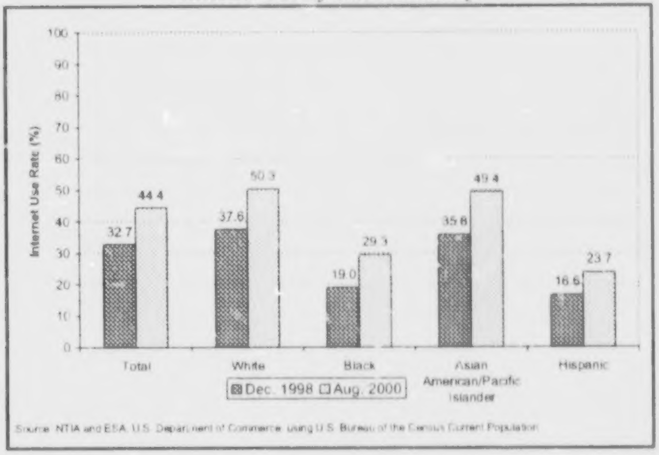
Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population

RACE AND ETHNICITY

Although Internet use is growing across the board, groups of different racial and ethnic backgrounds still use the Internet to differing degrees. (Figure II-4.) In August 2000, Whites (50.3%) continued to be the most likely to use the Internet, followed by Asian American/Pacific Islanders (49.4%), Blacks (29.3%), and Hispanics (23.7%).

During the 20-month period between the two surveys, Whites gained 12.7 percentage points and Asian American/Pacific Islanders gained 13.6 percentage points in the share of their populations using the Internet. Over the same period, Blacks gained 10.3 percentage points, and Hispanics gained 7.1 percentage points. Blacks were 13.7 percentage points behind the national average in December 1998 and in August 2000 they were 15.1 percentage points behind the national average. Similarly, in December 1998, Hispanics were 16.1 percentage points behind the national average and in August 2000 they were 20.7 percentage points behind.

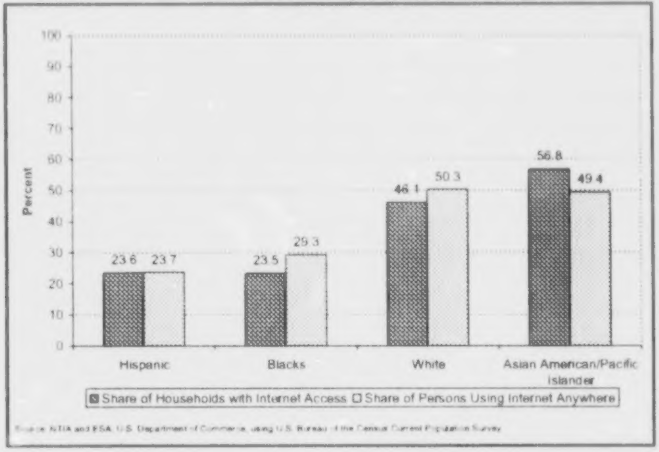
Figure II-4
Internet Use by Race/Ethnicity



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population

Reviewing the data by race and Hispanic origin brings out the lack of close correspondence between the household-based measure of access to the Internet and the person-based measures of use. For example, although 56.8 percent of Asian American/Pacific Islander households had Internet access, only 49.4 percent of persons in that group were using the Internet. In contrast, the rates of personal use were higher for Whites and Blacks than their household connection rates. Among Whites, 46.1 percent of their households had online connections but 50.3% of White persons were Internet users at some location. The gap was even larger for Blacks: only 23.5% of their homes were online, but 29.3% of Black persons were Internet users. Only for Hispanics were the two percentages essentially the same at 23.6% and 23.7%, respectively.

Figure II-5
Household Access Rates by Race/Ethnicity Do Not Closely Track Internet Use by Persons



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey

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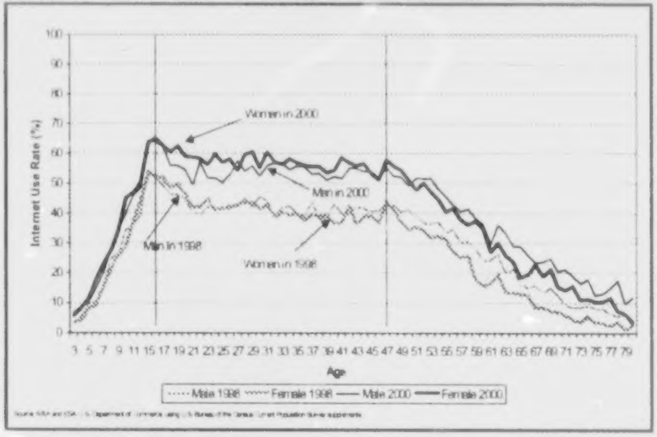
Why do Whites have personal Internet usage rates at least as high as the rates for persons of Asian and Pacific Islander background despite having rates of household connections 11 points lower? Why do Blacks have household rates of Internet access comparable to Hispanics but much higher personal use rates? As delineated in Table II-9, three factors come into play: the relative family size of households with Internet access, the share of persons with home access who actually use the Internet at home, and the share of persons who use the Internet only outside the home. The difference in household size for online households is larger for Whites and Blacks. Whites also have the highest share of people who live in homes with Internet access who actually make use of that access, while Hispanics have the lowest share. Finally, Blacks have the highest share of people who access the Internet only outside the home (10.4%), followed by Whites at 8.6%. Only 7.5% of Hispanics and Asian American and Pacific Islanders use the Internet exclusively outside the home. (See Figure II-14.)

GENDER

Over the 20 months prior to August 2000, women raised their Internet use rates fast enough to close the gap with men. In December 1998, 34.2% of men and 31.4% of women were using the Internet. By August 2000, 44.6% of men and a statistically indistinguishable 44.2% of women were Internet users.

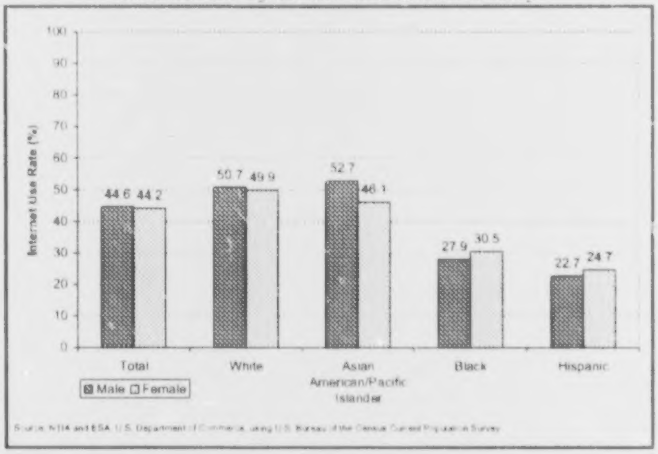
Underlying the closing aggregate gender gap are some gender differences by age. (Figure II-6.) For both surveys, in the early years of life, boys and girls are equally likely to be Internet users. The small gap in favor of females of college age widened by 2000. During the years of prime labor force participation, while men were more likely than women to be Internet users in 1998, twenty months later the situation had reversed—in August 2000 women were more likely than men to be Internet users. For older adults in both surveys, men were more likely than women to be online.

Figure II-6
Internet Use by Gender and Age



In August 2000, males and females had very similar Internet use rates in all but one race/ethnic group—Asian American/Pacific Islanders. Among Asian American/Pacific Islanders, males had higher Internet use rates than females. (Figure II-7)

Figure II-7
Internet Use by Gender and Race/Ethnicity



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey

EDUCATIONAL ATTAINMENT

In both 1998 and 2000, Internet use rose with higher levels of education.[12] (Figure II-8.) Adults with no more than an elementary level of education have Internet use rates of less than 4%. People whose highest level of education is a bachelors degree or higher had the highest Internet use (74.5%). The percentage point gain of this group (13 points between 1998 and 2000) was less than that of adults with only some college education (16 percentage points).

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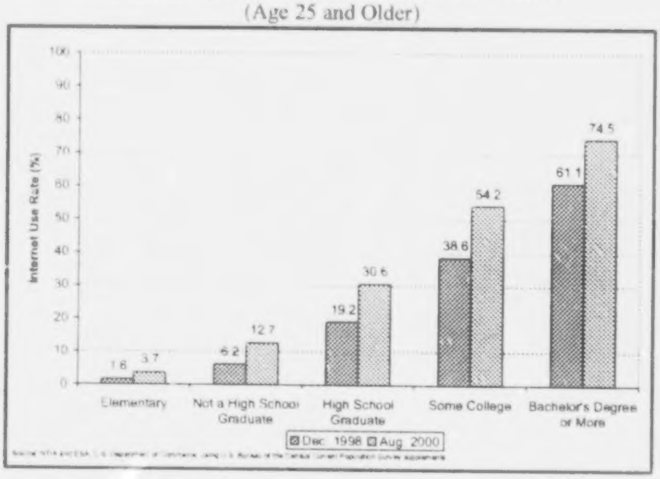
[12] Educational attainment refers to the highest level of education completed. Data shown exclude individuals age 3 to 24 because a large portion of individuals in these groups are still in school.

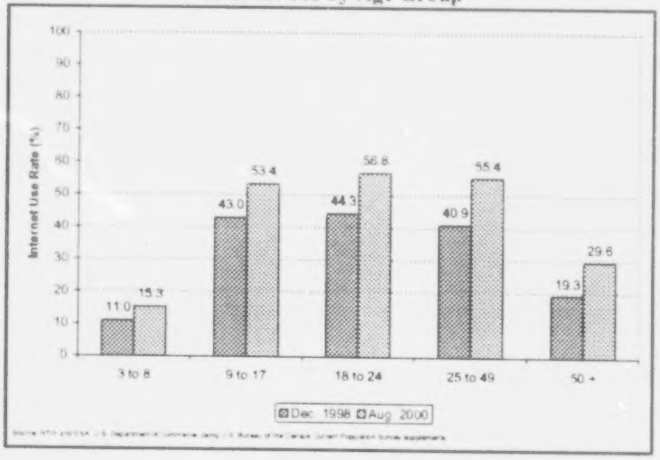
Figure II-8
Internet Use Rates by Educational Attainment
(Age 25 and Older)



AGE

For the purpose of this analysis, age categories were grouped to roughly correspond to important periods in peoples lives—Children (age 3-8), Youth (age 9-17), College/Early Work Force (age 18-24), Work Force (age 25-49), and Late Work Force/Retirement (age 50+). There has been strong growth in the personal use rates in all age categories except young children (age 3-8). (Figure II-9.) People over the age of 50 had the next lowest rate of Internet use in 2000 (29.6%) with a 10.3 percentage point increase over 1998. The remaining three age categories had Internet use rates that are higher than the national average of 44.4%.

Figure II-9
Internet Use by Age Group



Age 3 to 8 Years

Young children, not surprisingly, had the lowest Internet use rate in 2000 (15.3%) and the smallest increase in use since 1998 (4.3 percentage points). In 2000, 15.7% of girls and 14.9 percent of boys in this age groups were Internet users. (Table II-2.)

The race/ethnicity patterns track the national use rate patterns—Whites (18.5%), Asian American/Pacific Islanders (14.4%), Blacks (10.2%), and Hispanics (8.7%).

Internet use rates increase with household income. Young children from households with income less than $15,000 had an Internet use rate of 5.4% in 2000—9.9 percentage points behind the national average for this group. At the other extreme, households with incomes greater than $75,000 had an Internet use rate of 21.8%. (Table II-2.)

Age 9 to 17 Years

Internet use rates picked up among youths (age 9-17) with the national average for this age group increasing from 43.0% in December 1998 to 53.4% in August 2000 (a 24% growth in the use rate). Thus, the average use rate for this group was above the national average in both December 1998 and August 2000. (Table II-3.)

There was little difference in Internet use between boys (52.9%) and girls (53.9%) in 2000.

Again, race/ethnicity patterns were similar to the national average, with Whites (63.1%) and Asian American/Pacific Islanders (58.6%) showing higher use rates than Blacks (34.2%) and Hispanics (31.4%). Blacks, however, saw relatively rapid growth in their rate of Internet use (63%) from December 1998 to August 2000 compared with Asian American/Pacific Islanders (45%), Hispanics (33%), and Whites (20%).

Individuals who lived in households where income was less than $15,000 (28.8%) and those who lived in households where income was between $15,000 and $24,999 (36.3%) had Internet use rates below the national average. Individuals who lived in households where income was $35,000 or more had Internet use rates greater than the national average for this age group.

Age 18 to 24 Years

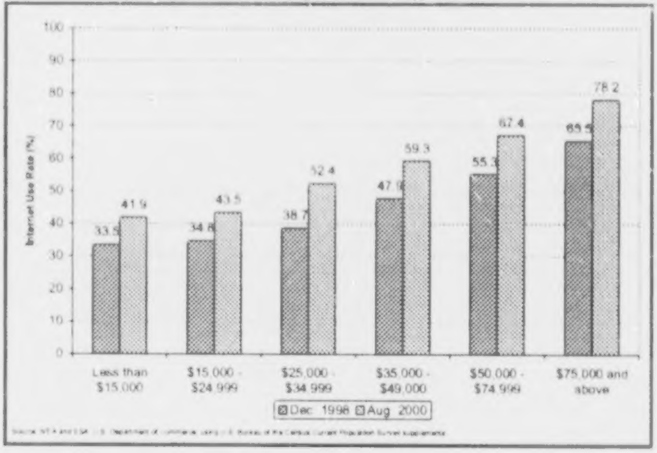
Individuals age 18 to 24 also saw Internet use rates for both December 1998 (44.3%) and August 2000 (56.8%) that were above the national averages. (Table II-4.)

In this age group, women (59.6%) had higher Internet use rates than men (54.1%) in 2000.

In August 2000, the Internet use rates for Black (41.5%) and Hispanics (32.4%) in this age group were considerably higher than use rates for these race/ethnicity groups in the population at large. However, these groups still lag behind Whites (65.0%) and Asian American/Pacific Islanders (72.9%). Of these two groups, Blacks appear to be gaining ground relatively rapidly with a growth in the use rate of 55% over the 20 month period. This compares to 30% growth for Asian American/Pacific Islanders, 28% for Hispanics, and 25% for Whites.

In this age group, individuals at all household income levels had Internet use rates close to or above the Internet use rate for the population as a whole— Less than $15,000 (41.9%), $15,000 to $24,999 (43.5%), $25,000 to $34,999 (52.4%), $35,000 to $49,999 (59.9%), $50,000 to $74,999 (67.4%), and $75,000 and above (78.2). This flattening of the income gradient suggests that income is less important than other factors in Internet use among 18 to 24 year olds. (Figure II-10.)

Figure II-10
Internet Use by Income Age 18-24



Age 25-49 Years

Labor force participation appears to be an important component in Internet uptake for this group and even more so for individuals age 50 and older. These two age brackets were separated into two groups, those in the labor force and those outside the labor force.[13] (Figure II-11.) (Tables II-5 and II-6.)

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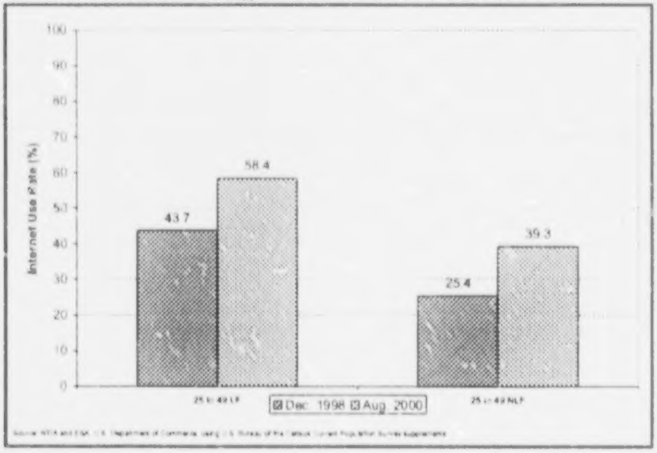
[13] The labor force includes both the employed and the unemployed (i.e., not employed , but looking for work). Since most of the unemployed move in and out of the employment, they are generally more likely to be employed than those not in the labor force.

Figure II-11
Internet Use Age 25-49 and Labor Force Status



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey Supplements

The Internet use rate for all 25 to 49 year olds was 55.4%, up from 40.9% in December 1998. Those in the labor force were more likely to be Internet users. Their Internet use rate was 58.4% compared to 39.3% for those not in the labor force in August 2000.

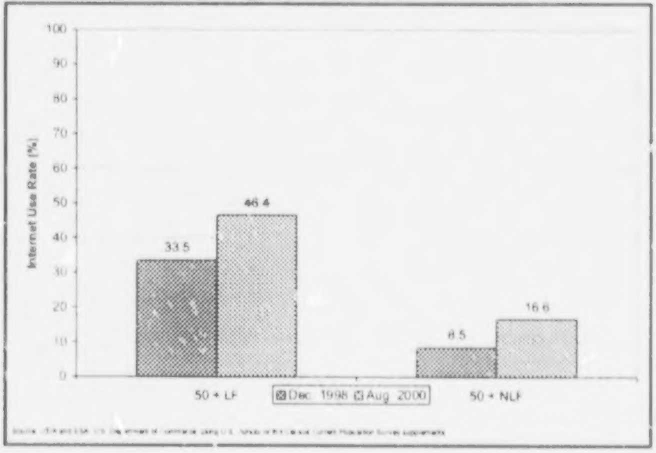
Women were more likely than men to be Internet users regardless of labor force status, but the gap between the genders was larger for those not in the labor force. In 2000, 60.8% of women and 56.2% of men were Internet users among 25-49 year olds who were in the labor force. Among those not in the labor force in this age bracket, however, the use rate for women was 42.6% and the use rate for men was 28.6%.

Blacks and Hispanics were below the national average in Internet use regardless of labor force status, but Blacks and Hispanics who were not in the labor force were even further below the national average. For Blacks in the labor force, the use rates was 40.3%, but for those not in the labor force it was 18.9% in August 2000. Hispanics age 25 to 49 who were in the labor force had an Internet use rate of 29.8%, while those not in the labor force had a use rate of 16.5%. Among those not in the labor force, Blacks had 100% growth in their use rate over 1998 and Hispanics saw an 85% increase in their use rate. This is consistent with aggregate patterns of faster growth in the groups that are the below the national average and growing from a smaller base.

Age 50 and Over

For those age 50 and older the importance of labor force participation is even more striking than it was for those age 25 to 49. Among those age 50 and older, Figure II-12 reveals an almost three-fold ratio between the Internet use of those in the labor force (46.4%) and those not in the labor force (16.6%). (Tables II-7 & II-8.)

Figure II-12
Internet Use Age 50 + and Labor Force Status



Individuals who are over 50 years old are among the least likely to be Internet users—the Internet use rate in this group was only 29.6% in 2000. In August 2000, however, the rate for individuals age 50 and older who were still in the labor force (46.4%) was much closer to the 58.4% for 25 to 49 year olds who were in the labor force. This suggests that the lower Internet use for ages beyond 50 shown in Figure II-2 is associated with labor force attachment, as well as with age.

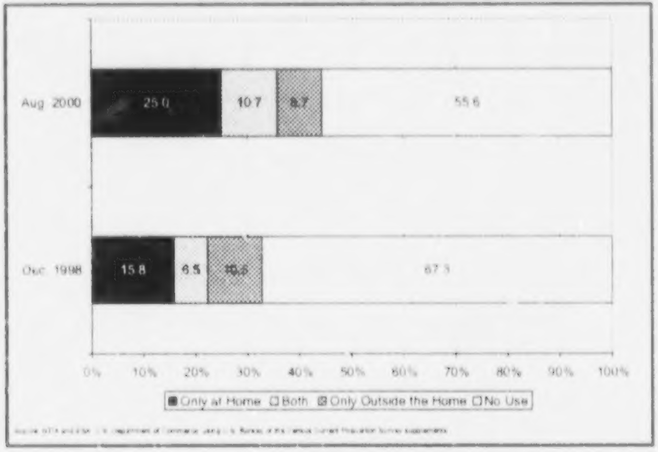
Labor force participation also affect the gender differences evident for individuals age 50 and older. In August 2000, men (46.0%) and women (46.8%) who were still in the labor force were equally likely to be Internet users. However, men (18.1%) had higher Internet use rates than women (15.6%) for those not in the labor force. This gender difference may result from higher previous labor force participation by men relative to women in this age group and from the larger number of women relative to men who are over 70 years old.

LOCATION OF INTERNET ACCESS

Although this survey did not collect data on the intensity or the quality of Internet use, where an individual uses the Internet, at home, away from home, or both, probably reflects some degree of quality of his or her Internet access. An individual who uses the Internet at his or her home typically has the opportunity to use the technology more frequently and for longer periods of time than if he or she uses it only at a school, library, or community center.

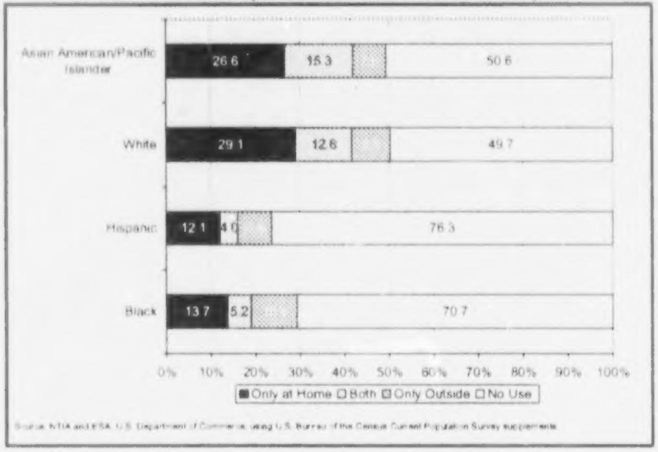
In August 2000, 25.0% of the population used the Internet only from home, an increase from 15.8% in December 1998. The share of the population using the Internet from both home and outside the home also increased—from 6.5% to 10.7%. In contrast, use from only outside the home declined from 10.5% to 8.7%. (Figure II-13.)

Figure II-13
Internet Access by Location



The aggregate pattern of primary and increasing Internet use from the home is not, however, consistent across demographic groups. (Figure II-14.) Although 8.7% of Internet users nationwide used the Internet only from outside their homes, 10.4% of Blacks used the Internet only from locations outside their home.

Figure II-14
Internet Use by Location and Race/Ethnicity



Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

LOCATIONS OF INTERNET ACCESS OUTSIDE THE HOME

People who use the Internet from outside the home use it from a variety of locations. The most common non-home Internet use site is an individual's place of work—12.3% of the population (and

23.9% of the people who held jobs) used the Internet at work in August 2000.[14] At school (K-12) (3.7%) was the second most commonly reported site of Internet use in August 2000 despite there being fewer children in school that month. "Someone else's computer" (2.7 %) was another possible place of access as were public libraries (1.9%) and "other school" (1.6%).

Similarly, work was the most frequently reported site of outside the home Internet use for each of the race/ethnic groups. Asian Americans and Pacific Islanders (15.4%) and Whites (14.1%) reported having access to the Internet at work more often than Blacks (8.1%) and Hispanics (5.6%). On the other hand, Blacks (2.9%) and Asian Americans and Pacific Islanders (2.3%) were more likely to be using the Internet at public libraries than Whites (1.7%), and Hispanics (1.7%).

Men (13.2%) were more likely than women (11.6%) to report using the Internet at work.

The likelihood of reporting work as a place to use the Internet increases with household income. In August 2000, 2.1% of individuals whose household incomes were less than $15,000 reported using the Internet at work—this was 10.2 percentage points behind the national average of 12.3%. As household incomes rose, so did Internet use at work—4.0% for individuals with household incomes between $15,000 and $24,999, 7.8% for individuals with household incomes of $25,000 to $34,999, and 11.1% for those with household incomes from $35,000 to $49,999. Individuals with household incomes between $50,000 to $74,999 (16.5%) and those with household incomes greater than $75,000 (29.6%) reported work use at rates higher than the national average.

Public libraries appear to be a more important place of Internet use for the unemployed than for those who had jobs. In August 2000, 4.2% of unemployed individuals reported using the Internet from the public library compared to 1.8% of employed individuals and 1.7% of those who were not in the labor force.

ONLINE ACTIVITIES

The most frequent online activity among Internet users in August 2000 was e-mail. (Figure II-15) About 80% of people with Internet access reported regularly using e-mail. More than half of the people online also used the Internet regularly to search for information. Making phone calls was the least common online activity; less than 6% of Internet users reported regularly using the Internet to make calls.

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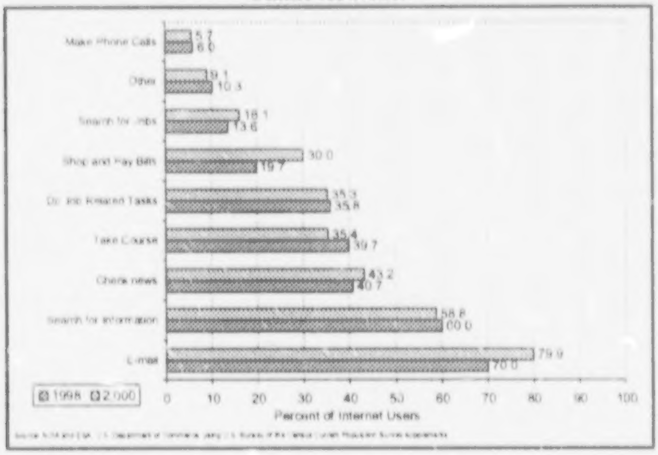
[14] Reported Internet use from "school (K-12) and "other school" was lower in August 2000 than in December 1998. The authors believe this is a function of seasonal factors—i.e., students who were not in school in August when the 2000 survey was conducted appear to be influencing the frequency with which "schools (K-12)" and "other schools" were reported as locations for Internet use. Only August 2000 data are shown. Evidence of this seasonality problem can be seen from the fact that the number of people age 18 to 24 who reported being in school dropped from 14 million in December 1998 to 12 million in August 2000. The next U.S. Bureau of the Census Survey on computer and Internet use is scheduled for September 2001 when data on school use should be less problematic.

Figure II-15
Online Activities



Online shopping and bill paying were not the most common of online activities—only 30% of Internet users reported regularly shopping or paying bills online in 2000. Nonetheless, this activity saw the greatest increase (52%) between December 1998 and August 2000.

ONLINE ACTIVITIES OF HOME INTERNET USERS

E-mail continues to be the most common use of the Internet among people who use the Internet at home.[15] In August 2000, 84.8% of people using the Internet at home used it for e-mail, up from the 77.9% in December 1998. In August 2000, one-third of Internet users shopped and paid bills online (33.6%), up from the almost one-quarter of the Internet population in 1998 (24.5%). Most other uses are relatively unchanged from December 1998. The percentage of those who go online to check news, weather, or sports, is about the same, at 46%, while those using the Internet to search for information hovered around 59%, and those using the Internet for job-related tasks remained about 28%.

As the near-universal application, e-mail use showed little variation across income and education categories. Use of the Internet for e-mail by home Internet users in the lowest income households were within a percentage point or two of those using the Internet in the highest income households—all were above 82%.

Looking at e-mail use from the perspective of education level, 90.1% of those with bachelor's degrees or higher used the Internet for e-mail, but 80.1% of those with an elementary-school education did, as well. In August 2000, 84.2% of those with some high school, but not a degree, used e-mail.

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[15] Internet use rates shown in this section represent a ratio of those individuals engaging in the respective online activities as a share of Internet users who *use the Internet at home*. In August 2000, 93.8 million people or 35.7% of the population used the Internet at home.

The August 2000 data showed that more women (86.8%) used the Internet for e-mail than men (82.8%). More women (96.6%) used the Internet for communicating with friends and family than men (93.6%). More men (34.2%) than women (24.7%) used e-mail for job-related activities, and more men (34.4%) than women (28.8%) used e-mail for hobbies and other special interests.

Racial differences played a small role in how e-mail is used. More Blacks used e-mail at home for job-related activities than Whites (32.5% vs. 29%), and this is also the case for usage for educational purposes: 38.1% for Blacks vs. 25.9% for Whites.

Men and women were slightly different in their use for online shopping and bill paying: men (32.7%) and women (34.5%). Men used the Internet more for job-related tasks. In August 2000, 30.2% of men used it for that purpose in contrast to 24.4% of women. Men used the Internet more to check news (54.3%) than did women (38.0%), but women went online more often to take courses or do research for school, 34.6% contrasted with 30.8% for men. Men and women used the Internet equally in their searches for information, each about 58%.

Online shopping and bill paying has caught on particularly with 25 to 34 years olds. Nearly half of the people in this age group (47.7%) used the Internet for these activities. Thirty-five to forty-four year olds followed closely with a use rate of 42.9%.

Whites used the Internet for shopping and bill paying more than Blacks, 34.4% and 27.5% respectively. In addition, 16.4% of at home Internet users in 2000 went online to look for jobs, up from 14.5% in 1998.

ONLINE ACTIVITIES OF OUTSIDE THE HOME INTERNET USERS

The pattern of online activities by people who used the Internet outside the home differed from that of home users.[16] With the exception of job related activities, a smaller share of people who used the Internet outside the home reported engaging in each of the measured activities. Among Internet users outside the home, 50.2% were online for job-related tasks, an increase from 44.6% in 1998.

In 2000, 32.2% of people using the Internet from outside the home did so to take courses—down from 38.8% in December 1998. In 2000, 45.0% of people using the Internet did so to search for information; in 1998, the figure was 50.1%. People using the Internet outside the home to check news, sports, and weather also dropped slightly. On the other hand, e-mail use was up to 59.1% in 2000 from 53.6% in 1998. Online shopping and bill paying was 10.4% in 2000 up from 7.5% in 1998.

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[16] Internet use rates shown in this section are represent a ratio of those individuals engaging in the respective online activities as a share of Internet users who *used the Internet outside the home*. In August 2000, 50.9 million people or 19.4 percent of the population used the Internet outside their homes.

Outside the home, Whites were more likely to go online for e-mail than Blacks, 61% vs. 51%. Blacks were more likely to use the Internet outside the home than Whites to take a course (41% v 29.7%), and were more likely to use the Internet to search for jobs (14.7% v. 7.2%).

In August 2000, an estimated 4.3 million people used the Internet outside the home to search for jobs. This represented 8.4% of the 50.9 million people who used the Internet away from home. Those with lower incomes were much more likely to search for jobs using the Internet. Among those with household incomes below $25,000 using the Internet away from home, more than 12% were searching for jobs, almost twice the 6.5% rate of those with incomes above $75,000. (Figure II-16.)

Figure II-16
The Percent of Internet Users Searching for Jobs on the Internet Declines as Income Increases

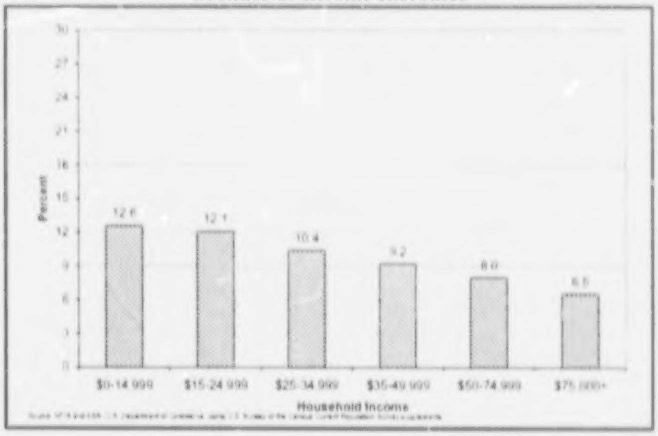

Table II-1

Internet Use Individuals Age 3 and Older

	Dec. 1998		Aug. 2000		Internet Use		Percentage Point Difference	Growth in Use Rate
	Internet Users	Total	Internet Users	Total	Dec. 1998	Aug. 2000		
Total Population	84,587	258,453	116,480	262,620	32.7	44.4	11.6	36
Male	43,033	125,932	56,962	127,844	34.2	44.6	10.4	30
Female	41,555	132,521	59,518	134,776	31.4	44.2	12.8	41
White Non-Hisp.	69,470	184,980	93,714	186,439	37.6	50.3	12.7	34
Black Non-Hisp	6,111	32,123	9,624	32,850	19.0	29.3	10.3	54
Asian/Pacific Islanders	3,467	9,688	5,095	10,324	35.8	49.4	13.6	38
Hispanic	4,887	29,452	7,325	30,918	16.6	23.7	7.1	43
Employed*	56,790	133,516	77,507	136,756	42.5	56.7	14.2	33
Not Employed*	1,647	5,726	2,698	5,961	28.8	45.3	16.5	58
Not in the Labor Force	14,411	70,924	20,661	71,232	20.3	29.0	8.7	43
Less than $15,000	5,170	37,864	6,057	32,096	13.7	18.9	5.2	38
$15,000 - $24,999	5,623	30,581	7,063	27,727	18.4	25.5	7.1	38
$25,000 - $34,999	8,050	31,836	11,054	31,001	25.3	35.7	10.4	41
$35,000 - $49,999	13,528	39,026	16,690	35,867	34.7	46.5	11.9	34
$50,000 - $74,999	19,902	43,776	25,059	43,451	45.5	57.7	12.2	27
$75,000 and above	24,861	42,221	36,564	52,189	58.9	70.1	11.2	19
Elementary †	206	12,529	452	12,253	1.6	3.7	2.1	131
Not a High School Graduate †	1,022	16,510	2,030	16,002	6.2	12.7	6.5	105
High School Graduate †	10,961	57,103	17,425	56,889	19.2	30.6	11.4	59
Some College †	16,603	43,038	24,201	44,628	38.6	54.2	15.6	40
Bachelors Degree or Higher †	26,571	43,509	34,083	45,755	61.1	74.5	13.4	22
3 to 8	2,680	24,282	3,671	23,962	11.0	15.3	4.3	39
9 to 17	15,396	35,821	19,579	36,673	43.0	53.4	10.4	24
18 to 24	11,356	25,662	15,039	26,458	44.3	56.8	12.6	28

Table II-1

Internet Use Individuals Age 3 and Older

	Dec. 1998		Aug. 2000		Internet Use		Percentage Point Difference	Growth in Use Rate
	Internet Users	Total	Internet Users	Total	Dec. 1998	Aug. 2000		
25 to 49	41694	101836	56433	101946	40.9	55.4	14.4	35
50 +	13669	70852	21758	73580	19.3	29.6	10.3	53

Source: U.S. Bureau of the Census, Current Population Survey, December 1998 and August 2000.
*Notes: The sum of the components may not equal the total due to rounding. * Age 16 and older † Age 25 and older*

Table II-2

Internet Use Individuals Age 3-8 Years

	Dec. 1998		Aug. 2000		Internet Use		Percentage Point Difference	Growth In Use Rate
	Internet Users	Total	Internet Users	Total	Dec. 1998	Aug. 2000		
Total	2,680	24,282	3,671	23,962	11.0	15.3	4.3	39
Male	1,440	12,346	1,833	12,284	11.7	14.9	3.3	28
Female	1,240	11,936	1,838	11,677	10.4	15.7	5.4	52
White Non-Hisp.	2,058	15,089	2,739	14,837	13.6	18.5	4.8	35
Black Non-Hisp	271	3,881	374	3,654	7.0	10.2	3.3	47
Asian/Pacific Islanders	132	937	156	1,086	14.1	14.4	0.2	2
Hispanic	187	4,095	361	4,140	4.6	8.7	4.2	91
Less than $15,000	220	4,229	182	3,344	5.2	5.4	0.2	4
$15,000 - $24,999	223	3,126	275	2,800	7.1	9.8	2.7	38
$25,000 - $34,999	221	2,828	387	3,053	7.8	12.7	4.9	62
$35,000 - $49,999	456	3,781	581	3,409	12.1	17.1	5.0	41
$50,000 - $74,999	627	4,272	799	4,179	14.7	19.1	4.5	30
$75,000 and above	695	3,728	966	4,426	18.7	21.8	3.2	17

Source: U.S. Bureau of the Census, Current Population Survey, December 1998 and August 2000.
Notes: The sum of the components may not equal the total due to rounding.

Table II-3

Internet Use Individuals Age 9-17

	Dec. 1998		Aug. 2000		Internet Use		Percentage Point Difference	Growth In Use Rate
	Internet Users	Total	Internet Users	Total	Dec. 1998	Aug. 2000		
Total	15,396	35,821	19,579	36,673	43.0	53.4	10.4	24
Male	7,886	18,355	9,925	18,771	43.0	52.9	9.9	23
Female	7,510	17,467	9,654	17,903	43.0	53.9	10.9	25
White Non-Hisp.	12,266	23,293	14,902	23,601	52.7	63.1	10.5	20
Black Non-Hisp	1,169	5,581	1,980	5,796	21.0	34.2	13.2	63
Asian/Pacific Islanders	612	1,516	837	1,428	40.4	58.6	18.3	45
Hispanic	1,185	5,006	1,706	5,427	23.7	31.4	7.8	33
Less than $15,000	1,121	5,062	1,244	4,326	22.2	28.8	6.6	30
$15,000 - $24,999	1,155	4,066	1,413	3,890	28.4	36.3	7.9	28
$25,000 - $34,999	1,514	4,408	1,889	4,132	34.3	45.7	11.4	33
$35,000 - $49,999	2,606	5,500	2,898	5,302	47.4	54.7	7.3	15
$50,000 - $74,999	3,553	6,686	4,082	6,370	53.1	64.1	10.9	21
$75,000 and above	4,215	6,176	5,827	7,801	68.2	74.7	6.4	9

Source: U.S. Bureau of the Census, Current Population Survey, December 1998 and August 2000.
Notes: The sum of the components may not equal the total due to rounding.

Table II-4

Internet Use Individuals Age 18-25

	Dec. 1998		Aug. 2000		Internet Use		Percentage Point Difference	Growth In Use Rate
	Internet Users	Total	Internet Users	Total	Dec. 1998	Aug. 2000		
Total	11,356	25,662	15,039	26,458	44.3	56.8	12.6	28
Male	5,584	12,929	7,138	13,195	43.2	54.1	10.9	25
Female	5,772	12,732	7,901	13,264	45.3	59.6	14.2	31
White Non-Hisp.	8,693	16,772	11,234	17,290	51.8	65.0	13.1	25
Black Non-Hisp	982	3,679	1,575	3,797	26.7	41.5	14.8	55
Asian/Pacific Islanders	582	1,035	820	1,124	56.3	72.9	16.6	30
Hispanic	1,005	3,972	1,316	4,062	25.3	32.4	7.1	28
Less than $15,000	1,672	4,991	1,786	4,261	33.5	41.9	8.4	25
$15,000 - $24,999	1,183	3,401	1,371	3,153	34.8	43.5	8.7	25
$25,000 - $34,999	1,270	3,283	1,757	3,356	38.7	52.4	13.7	35
$35,000 - $49,999	1,656	3,459	2,046	3,449	47.9	59.3	11.5	24
$50,000 - $74,999	2,117	3,829	2,481	3,684	55.3	67.4	12.1	22
$75,000 and above	2,432	3,711	3,842	4,915	65.5	78.2	12.6	19

Source: U.S. Bureau of the Census, Current Population Survey, December 1998 and August 2000
Notes: The sum of the components may not equal the total due to rounding

Table II-5

Internet Use Individuals Age 25-49 In the Labor Force

	Dec. 1998		Aug. 2000		Internet Use		Percentage Point Difference	Growth In Use Rate
	Internet Users	Total	Internet Users	Total	Dec. 1998	Aug. 2000		
Total	37,808	86,509	50,107	85,850	43.7	58.4	14.7	34
Male	20,084	46,270	25,979	46,194	43.4	56.2	12.8	30
Female	17,725	40,239	24,129	39,656	44.0	60.8	16.8	38
White Non-Hisp	31,133	62,563	40,342	61,269	49.8	65.8	16.1	32
Black Non-Hisp	2,922	10,455	4,221	10,471	27.9	40.3	12.4	44
Asian/Pacific Islanders	1,492	3,335	2,339	3,692	44.7	63.3	18.6	42
Hispanic	1,994	9,464	2,920	9,808	21.1	29.8	8.7	41
Employed	37,077	83,508	48,841	82,939	44.4	58.9	14.5	33
Not Employed	731	3,002	1,267	2,911	24.4	43.5	19.2	79
Not in the Labor Force	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Less than $15,000	1,248	7,307	1,458	5,778	17.1	25.2	8.1	48
$15,000 - $24,999	2,060	8,780	2,461	7,425	23.5	33.1	9.7	41
$25,000 - $34,999	3,632	10,805	4,666	10,096	33.6	46.2	12.6	38
$35,000 - $49,999	6,398	15,333	7,546	13,227	41.7	57.0	15.3	37
$50,000 - $74,999	10,051	18,365	12,140	17,765	54.7	68.3	13.6	25
$75,000 and above	11,298	16,381	16,401	20,201	69.0	81.2	12.2	18
Elementary	702	8,646	1,327	8,502	8.1	15.6	7.5	92
Not a High School Graduate	7,273	27,511	11,058	26,601	26.4	41.6	15.1	57
High School Graduate	11,621	24,663	15,804	24,730	47.1	63.9	16.8	36
Some College	12,187	17,946	14,854	18,097	67.9	82.1	14.2	21
Bachelor's Degree or More	6,026	7,744	7,064	7,920	77.8	89.2	11.4	15

Source: U.S. Bureau of the Census, Current Population Survey, December 1998 and August 2000
Notes: The sum of the components may not equal the total due to rounding

Table II-6

Internet Use Individuals Age 25-49 Not in the Labor Force

	Dec. 1998		Aug. 2000		Internet Use		Percentage Point Difference	Growth In Use Rate
	Internet Users	Total	Internet Users	Total	Dec. 1998	Aug. 2000		
Total	3,886	15,327	6,326	16,097	25.4	39.3	13.9	55
Male	805	3,784	1,099	3,840	21.3	28.6	7.3	35
Female	3,081	11,542	5,227	12,257	26.7	42.6	16.0	60
White Non-Hisp.	3,161	9,842	5,054	10,339	32.1	48.9	16.8	52
Black Non-Hisp	197	2,085	438	2,321	9.4	18.9	9.4	100
Asian/Pacific Islanders	292	882	394	859	33.1	45.9	12.8	39
Hispanic	205	2,308	398	2,416	8.9	16.5	7.6	85
Less than $15,000	450	3,774	619	3,397	11.9	18.2	6.3	53
$15,000 - $24,999	338	1,839	415	1,794	18.4	23.1	4.8	26
$25,000 - $34,999	381	1,674	599	1,814	22.8	33.0	10.3	45
$35,000 - $49,999	563	1,950	905	1,923	28.9	47.1	18.2	63
$50,000 - $74,999	742	1,779	1,187	1,978	41.7	60.0	18.3	44
$75,000 and above	1,043	1,959	1,771	2,482	53.3	71.4	18.1	34
Elementary	139	3,493	314	3,436	4.0	9.1	5.2	129
Not a High School Graduate	919	5,407	1,544	5,380	17.0	28.7	11.7	69
High School Graduate	1,327	3,542	2,134	4,053	37.5	52.7	15.2	41
Some College	1,158	2,294	1,698	2,385	50.5	71.2	20.7	41
Bachelor's Degree or More	343	591	636	843	58.1	75.5	17.4	30

Source: U.S. Bureau of the Census, Current Population Survey, December 1998 and August 2000
Notes: The sum of the components may not equal the total due to rounding.

Table II-7

Internet Use Individuals Age 50+ In the Labor Force

	Dec. 1998		Aug. 2000		Internet Use		Percentage Point Difference	Growth In Use Rate
	Internet Users	Total	Internet Users	Total	Dec. 1998	Aug. 2000		
Total	10,268	30,618	14,891	32,103	33.5	46.4	12.9	38
Male	5,838	16,546	8,104	17,605	35.3	46.0	10.7	30
Female	4,430	14,072	6,788	14,498	31.5	46.8	15.3	49
White Non-Hisp	9,134	24,762	13,189	25,810	36.9	51.1	14.2	39
Black Non-Hisp	517	2,684	779	2,797	19.3	27.9	8.6	44
Asian/Pacific Islanders	300	1,028	402	1,036	29.2	38.8	9.6	33
Hispanic	280	1,985	464	2,299	14.1	20.2	6.1	43
Employed	10,075	29,849	14,558	31,278	33.8	46.5	12.8	38
Not Employed	193	769	333	825	25.1	40.4	15.3	61
Less than $15,000	234	2,354	334	2,021	9.9	16.5	6.6	66
$15,000 - $24,999	353	2,809	529	2,555	12.6	20.7	8.1	65
$25,000 - $34,999	595	3,282	1,033	3,475	18.1	29.7	11.6	64
$35,000 - $49,999	1,345	4,690	1,662	4,300	28.7	38.6	10.0	35
$50,000 - $74,999	2,255	5,737	3,200	5,883	39.3	54.4	15.1	38
$75,000 and above	4,449	7,531	6,193	8,618	59.1	71.9	12.8	22
Elementary	213	3,932	419	4,003	5.4	10.5	5.1	93
Not a High School Graduate	1,930	10,059	2,897	9,886	19.2	29.3	10.1	53
High School Graduate	2,616	7,367	4,350	8,315	35.5	52.3	16.8	47
Some College	2,803	5,013	3,873	5,583	55.9	69.4	13.5	24
Bachelor's Degree or More	2,706	4,247	3,352	4,316	63.7	77.7	13.9	22

Source: U.S. Bureau of the Census, Current Population Survey, December 1998 and August 2000.
Notes: The sum of the components may not equal the total due to rounding.

Table II-8

Internet Use Individuals Age 50 + Not in the Labor Force

	Dec. 1998		Aug. 2000		Internet Use		Percentage Point Difference	Growth In Use Rate
	Internet	Total	Internet	Total	Dec. 1998	Aug. 2000		
Total	3,401	40,234	6,866	41,477	8.5	16.6	8.1	96
Male	1,518	15,702	2,885	15,956	9.7	18.1	8.4	87
Female	1,883	24,532	3,981	25,521	7.7	15.6	7.9	103
White Non-Hisp	3,208	32,658	6,254	33,293	9.8	18.8	9.0	91
Black Non-Hisp	56	3,759	257	4,015	1.5	6.4	4.9	329
Asian/Pacific Islanders	70	955	148	1,099	7.3	13.5	6.1	84
Hispanic	41	2,622	159	2,765	1.6	5.8	4.2	267
Less than $15,000	226	10,147	434	8,968	2.2	4.8	2.6	118
$15,000 - $24,999	322	6,559	600	6,110	4.9	9.8	4.9	100
$25,000 - $34,999	462	5,556	724	5,075	8.3	14.3	5.9	71
$35,000 - $49,999	556	4,313	1,052	4,259	12.9	24.7	11.8	91
$50,000 - $74,999	610	3,109	1,169	3,591	19.6	32.6	12.9	66
$75,000 and above	779	2,736	1,563	3,745	28.5	41.7	13.3	47
Elementary	174	12,968	421	12,314	1.3	3.4	2.1	155
Not a High School Graduate	840	14,126	1,926	15,022	5.9	12.8	6.9	116
High School Graduate	1,038	7,466	1,913	7,530	13.9	25.4	11.5	83
Some College	789	3,737	1,554	4,264	21.1	36.4	15.3	73
Bachelor's Degree or More	560	1,937	1,052	2,347	28.9	44.8	15.9	55

Source: U.S. Bureau of the Census, Current Population Survey, December 1998 and August 2000
Notes: The sum of the components may not equal the total due to rounding

Table II-9
Reconciliation of Household Access and Person Internet Use Rates for 2000

		White	Black	Asian American & Pac Islander	Hispanic	Total
1	Percent of households w/ Internet	46.1	23.5	56.8	23.6	41.5
	Average household size:					
2	Households w/ Internet	2.74	2.92	3.16	3.42	2.81
3	All households	2.37	2.55	3.07	3.23	2.49
4	Ratio (Row 2 / Row 3)	1.16	1.15	1.03	1.06	1.13
5	Access rate for persons who live in a household w/ Internet access (Row 1 x Row 4)	53.3	26.9	58.6	25.0	46.7
6	Percent of persons living in a household w/ Internet who use it	78.2	70.4	71.4	64.4	76.4
7	Use rate for persons who have Internet at home (Row 5 x Row 6)	41.7	18.9	41.8	16.1	35.7
8	Percent of persons who use Internet only outside the home	8.6	10.4	7.5	7.6	8.6
9	Access rate for persons who use Internet from any location (Row 7 + Row 8)	50.3	29.3	49.3	23.7	44.4

Note: Group quarters for households and persons are excluded. Numbers may not add exactly because of rounding.

Part III

INTERNET ACCESS AND COMPUTER USE AMONG PEOPLE WITH DISABILITIES

One important group whose levels of Internet access and computer use have not been discussed previously in this report are those individuals who have a physical or mental disability. The periodic supplements to the Current Population Survey, on which the analysis in the preceding sections are based, offer only a very limited basis from which to consider this issue. Fortunately, a new research data file derived from a different survey, the Survey on Income and Program Participation (SIPP), conducted in late 1999 provides, for the first time, a detailed look at this subject (see Box III-1).

As the data presented below show, Internet access and computer use vary by disability status. People who have a disability were only half as likely to live in homes with Internet access than those without any disability. And while just under 25% of people without a disability have never used a personal computer, the situation is quite different for those who have a disability. Close to 60% of people who have at least one type of disability have never used a computer.

There are, however, differences in rates of access and use for specific disabilities. For example, people with learning disabilities have Internet access either from home or somewhere else at rates of over 40%, while people who are blind or vision impaired have Internet access rates closer to 20%.

The data also show that some of the variation apparent in the aggregate is the result of some fairly large differences in the economic and demographic distribution of the various populations with and without disabilities. When these factors are taken into account, some of the differences between those who have a disability and those who do not narrow considerably. For example, employed people with and without disabilities are substantially more similar to each other in rates of Internet access and computer use than those in the same age group and disability status who are not employed.

Even after attempting to account for some of these factors, however, differences remain in the rates of Internet access and computer use between people who have a disability and those who do not.[17]

Technology offers enormous potential to increase the rates of computer and Internet use among people with disabilities. But technology can also be an additional barrier if products are not designed to be accessible. Innovations in the private sector as well as support from public entities are helping to ensure that more people have access to the Information Age by developing hardware and designing Web sites that are accessible to and usable by everyone.

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[17] As with the discussion in Part I and II, the present analysis simply presents cross-tabulations of survey data. No attempt has been made here to discern causality or even disentangle the complex interactions that exist, for example, between disability status, income, and employment.

Box III-1
The Survey on Income and Program Participation

An advantage of the Survey on Income and Program Participation (SIPP) research data file is that it allows examination of Internet access and computer use rates by people with specific types of disabilities. This is an important advantage because the type of disability may have implications for whether and how a person uses computer and accesses the Internet. The Current Population Survey (CPS) contains only one question with respect to disability: CPS respondents are asked if they have a health problem or disability which prevents them from working or limits the amount or type of work they can perform. Using the December 1998 CPS supplement, a recent study compares computer and Internet use between the group that has a work disability with the rest of the population.* The CPS and SIPP have different purposes and very different survey designs (see Methodology Section). The SIPP battery of questions is considerably longer than the CPS and its lengthy interview process allows for the collection of very detailed data such as that on a wide variety of disabilities used in this part of the report. These SIPP data are, however, from a research data file and are therefore considered preliminary and subject to revision. For more information on the SIPP see http://www.sipp.census.gov/sipp/

* See H. Stephen Kaye, "Computer and Internet Use Among People with Disabilities," Disability Statistics Report (13), U.S. Department of Education, National Institute on Disability and Rehabilitation Research, 2000.

DEFINITIONS

Analyzing the rate of usage of computers and the Internet among people with disabilities is complicated by the existence of different ways of defining disability. Moreover, disability identification is based on self-reporting, so people with similar conditions can disagree about whether that condition constitutes a disability, and whether they want to identify as a person with a disability. The approach used by this report is to follow a concept similar to that set out in the Americans with Disabilities Act (ADA). While the Act does not specify all the possible conditions to which ADA protection applies, it does define a person with a disability to be one who has a physical or mental impairment that substantially limits one or more major life activities.[18] Because information on many types of disabilities are collected in the SIPP, it is possible to construct a group that approximates the class protected under the ADA. The group designated as the group with disabilities for the purposes of this study is defined in Box III-2.[19]

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[18] This Act, which celebrated its tenth anniversary on July 26, 2000, prohibits discrimination on the basis of disability in employment, State and local government, public accommodations, commercial facilities, transportation, and telecommunications. The Act also includes in its definition any individual with a disability, people with a history or record of such an impairment and people who are perceived by others as having such an impairment.

[19] This concept of disability was developed by John McNeil, Bureau of the Census, U.S. Department of Commerce. For additional information on developing an appropriate definition of disability in the context of the SIPP survey see John

It is obvious that any categorization of those with disabilities, including the one detailed here, will encompass a very diverse group of individuals who will differ from each other in almost as many ways as they differ from those outside the group. Even given this extreme heterogeneity, it may be useful to explore how the class protected by the ADA varies from the rest of the population in its members' use of technologies such as computers and the internet. This aggregate, however, masks the possible differences that may exist among people with different types of disabilities. Therefore, in order to explore the rates at which individuals with different types of disabilities have access to the Internet and use computers, this section also considers populations with five specific disabilities: difficulty walking (*i.e.*, uses a cane, crutches, or wheelchair), vision problems, hearing problems, difficulty using hands, and learning disabilities.

The SIPP questions relating to Internet and computer use were asked of persons age 16 and above. Between August and November 1999, when the disability and Internet and computer use questions were asked, the U.S. population for those 16 and over was estimated to be approximately 209 million with 45 million, or 21.8% having at least one of the disabilities in Box III-2. Although the proportion of persons with any specific disabilities is not large on a proportional basis, even the smallest group–those with a learning disability–has close to 3 million people (Table III-1).[20]

Table III-1
Disability Status of Persons 16 and Above

	Number in Thousands	Percent of Population
Total Population 16 and over	208,783	
Has any Disability	45,416	21.8%
Has Difficulty with Walking	9,209	4.4%
Has Vision Problems	7,310	3.5%
Has Hearing Problems	6,961	3.3%
Has Difficulty using Hands	6,272	3.0%
Has a Learning Disability	2,945	1.4%

Source: Survey on Income and Program Participation, research data file (August -November 1999, Wave 11); U.S. Census Bureau, U.S. Department of Commerce

Respondents to the SIPP survey were asked whether they currently had Internet access from home and, if they did not have access from home, they were asked if they had access to the Internet "from work or somewhere else." Respondents were not asked whether they actually used the Internet.

M. McNeil, "Employment, Earnings, and Disability," presented at 75th Annual Conference of the Western Economic Association International meetings, June 29-July 3, 2000. (www.census.gov/hhes/www/disability.html)

[20] An individual may have more than one type of disability.

Box III-2
Building a Disability Category

There are many types of disabilities including:

- **Trouble walking**, which includes those who use a cane, crutches, walker, wheelchair, electric scooter, or similar aid for getting around
- **Vision difficulties**, which includes those who have difficulty seeing the words and letters in ordinary newspaper print even when wearing glasses or contact lenses if they usually wear them, in addition to the blind
- **Hearing difficulties**, which includes those who have difficulty hearing what is said in a normal conversation with another person even when wearing hearing aid, in addition to the deaf
- **Difficulties using hands and fingers** to do things such as picking up a glass or grasping a pencil
- **Learning disabilities**, such as dyslexia

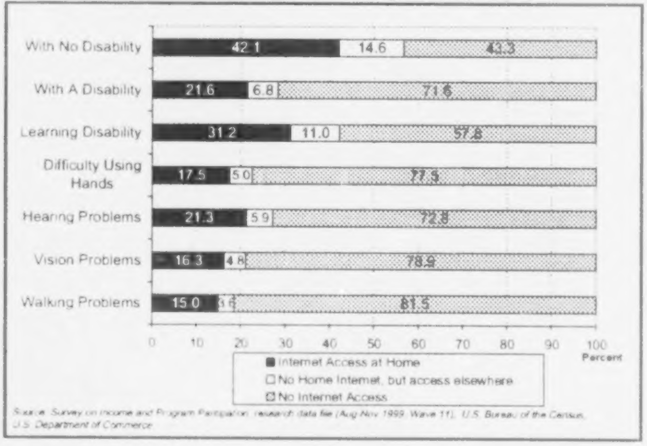
These five disabilities, however, are not nearly inclusive enough to approach the ADA concept of any "physical or mental impairment that substantially limits one or more major life activities." Therefore, in order to view the community of those with disabilities broadly, a category consisting of people with any of the above disabilities, *plus* any of the following disabilities was constructed:

- Has difficulty having their speech understood
- Has difficulty lifting and carrying something as heavy as 10 pounds–such as a bag of groceries
- Has difficulty walking up a flight of 10 stairs or walking a quarter of a mile
- Has difficulty using an ordinary telephone
- Because of a physical or mental health condition, has trouble doing any of the following by themselves:
  - Getting around INSIDE the home
  - Going OUTSIDE the home, for example, to shop or visit a doctor's office
  - Getting in and out of bed or a chair
  - Taking a bath or shower
  - Dressing
  - Eating
  - Using or getting to the toilet
  - Keeping track of money or bills
  - Preparing meals
  - Doing light housework such as washing dishes or sweeping a floor
  - Taking the right amount of prescribed medicine at the right time
- Is mentally retarded
- Has a developmental disability such as autism or cerebral palsy
- Has Alzheimer's disease or any other serious problem with confusion or forgetfulness
- Has some other mental or emotional condition
- During the past 12 months, reported that problems with people skills, concentration, or stress seriously interfered with their ability to manage everyday activities
- Has a long-lasting physical or mental condition that has made it difficult to remain employed, to find a job, or to do work around the house

Therefore, persons with a disability could answer "yes" to Internet access at home, even if they themselves never used it. As was noted in Part II, a quarter of people in homes with Internet access do not actually use that access. This survey's results, therefore, most likely overstate the rate of Internet *use* by those with and without disabilities. The degree of overstatement may also be larger for those with disabilities and vary for particular types of disabilities.

As shown in Figure III-1, persons with a disability were only half as likely to have Internet access either from home or some other location than those without any disability. There were, however, differences in rates of access for specific disabilities. Those with a learning disability, for example, are more like the population with no disability than are those with a vision problems in having access to the Internet.[21]

Figure III-1
Internet Access by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

While the SIPP did not question all respondents about computer ownership, respondents were asked about their experience with personal computers. As shown in Figure III-2, one half (51%) of those without a disability use "a personal computer on a regular basis" and an additional quarter of this group responded that they have "used a personal computer, but do[es] not now use one on a regular basis." Only 25% of the group without disabilities has never used a personal computer. The situation is quite different for those who have a disability. Those with learning disabilities are the only group with a disability where at least half of the population has any experience using a personal computer.

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[21] The SIPP data from which these descriptive statistics are drawn are research data for which the analysis required to construct confidence intervals has not yet been undertaken. Therefore it is not possible to judge with accuracy which differences among groups are "real" in the statistical sense. All results and inferences contained in this section should be consider preliminary pending development of testing criteria.

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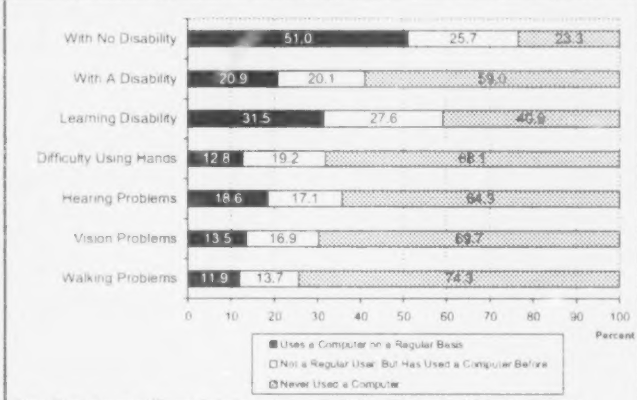
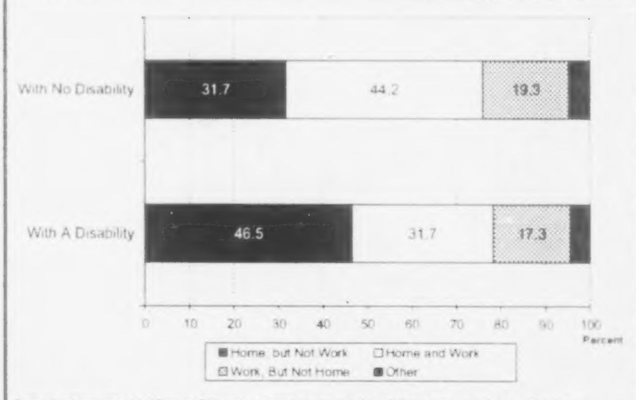
Figure III-2
Personal Computer Use Experience by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Among those who said they regularly used a personal computer (51.0% of those with no disability and 20.9% of those with a disability), those with a disability more often noted "at home" to be the place where they used a computer, rather than the "work and home" category most often claimed by the group with no disabilities (see Figure III-3).

Figure III-3
Regular Users of PCs by Location and Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

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EXPLORING POPULATIONS WITH DISABILITIES

While some of the results presented above have plausible explanations, others raise more questions than answers. One could hypothesize, for example, that the lower rates of PC use at work by those with a disability reflect lower employment among that group, that software that relies heavily on "mouse" commands makes computer use difficult for those with manual dexterity problems, or that Web pages that are covered with graphics make it difficult for people with vision problems to navigate a site. Why, then, do those who use crutches, canes, or wheelchairs have a similarly low proportions of people accessing the Internet or using a PC regularly as those, say, with vision impairment? In order to better understand the use of computers and the Internet by those with disabilities, further examination of the composition of the various groups is necessary.

People with a disability (again using the criteria set in Box III-2) are somewhat more likely to be female than the population without disabilities, and there are some relatively minor differences in race and ethnicity distributions between the two groups (see Table III-7). There are striking differences, however, in income, age, and employment distributions: the group with disabilities has lower income, is older, and is less likely to be employed than the group without disabilities (see Figures III-4 to III-9). The previous sections of this report show these three variables to be associated with substantial variations in computer use and Internet access. And, indeed, some interesting variations are found in rates of Internet access and regular computer use between disabled and nondisabled populations when considered over these dimensions, as well as gender and race/ethnicity.

Figure III-4
Income Distribution for Persons with a Disability

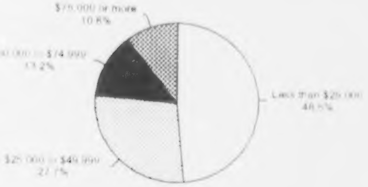


Figure III-5
Income Distribution for Persons without a Disability

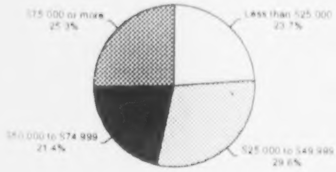


Figure III-6
Age Distribution for Persons with a Disability

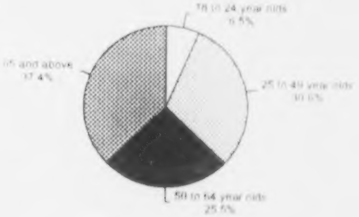


Figure III-7
Age Distribution for Persons without a Disability

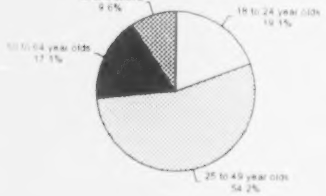


Figure III-8
Employment Status Distribution for Persons with a Disability

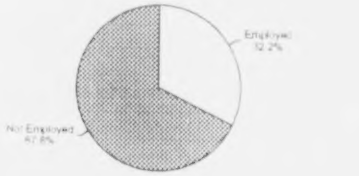
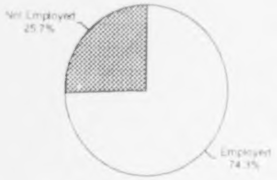


Figure III-9
Employment Status Distribution for Persons without a Disability

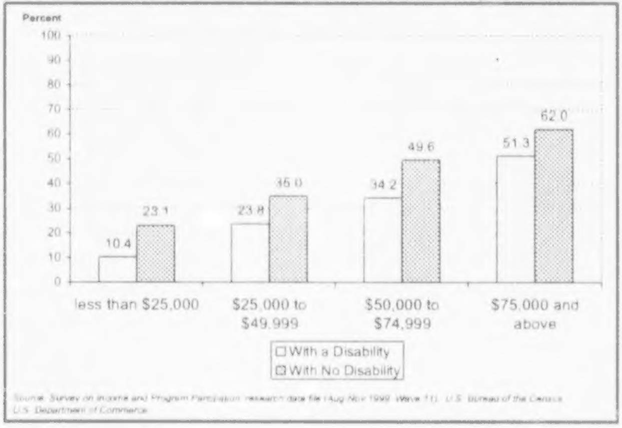


Source: Survey on Income and Program Participation (Aug.-Nov. 1999), U.S. Census Bureau, U.S. Department of Commerce.

INCOME

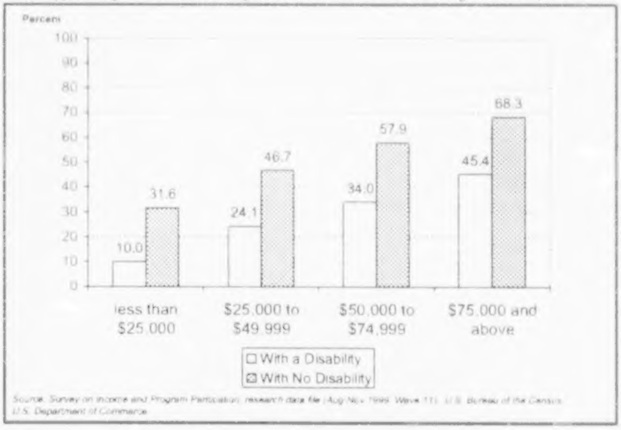
As shown in Figure III-10, people with a disability are less likely to have access to the Internet than people without a disability at all income levels. This disparity between the two groups declines as income rises. For example, a person with a disability is less than half as likely to have home Internet access if family income is less than $25,000, while there is less than a 20% differential in access rates where family income is in the $75,000 and above range. Similarly, Figure III-11 shows that the difference between the percentage of people with disabilities who regularly use a PC and the percentage of people without a disability who regularly use a PC narrows as incomes rise.[22]

Figure III-10
Internet Access at Home by Income and Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Figure III-11
Regularly Uses a PC by Income and Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

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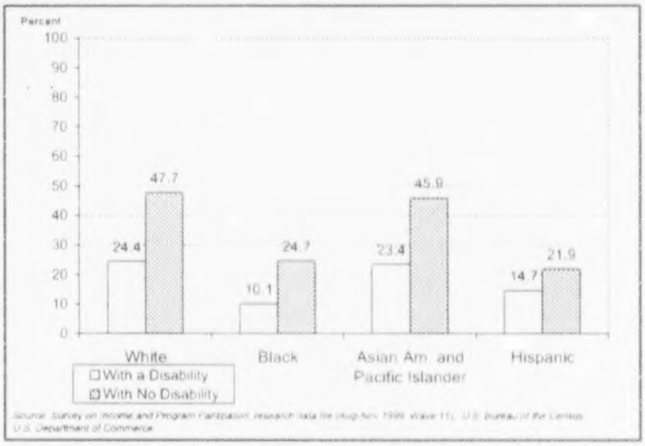
[22] The companion figures of "No Internet Access at Home, But Elsewhere" and "Never Used a PC" appear in Table III-8.

RACE AND ETHNICITY

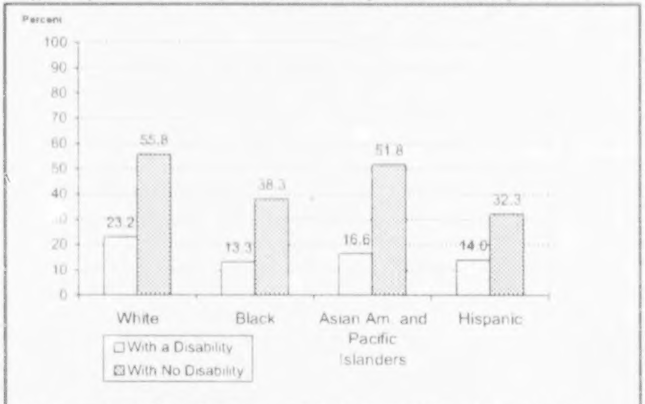
As regards home Internet access, Hispanics with a disability are the most like their comparative group without a disability, with the access rate of the former being 67% of the latter(see Figure III-12). When considering differences in the proportion of each group that uses a PC regularly (see Figure III-13), Blacks and Asian Americans and Pacific Islanders have the greatest disparity between persons with and without disabilities on a percentage basis.

Figure III-12
Internet Access at Home by Race/Ethnicity and Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce.

Figure III-13
Regularly Uses a PC by Race/Ethnicity and Disability Status, 1999

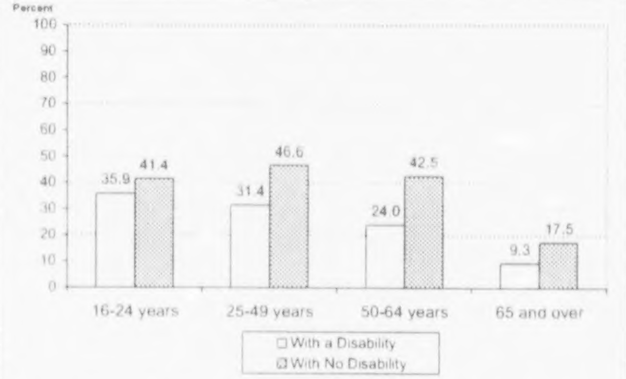


Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce.

AGE

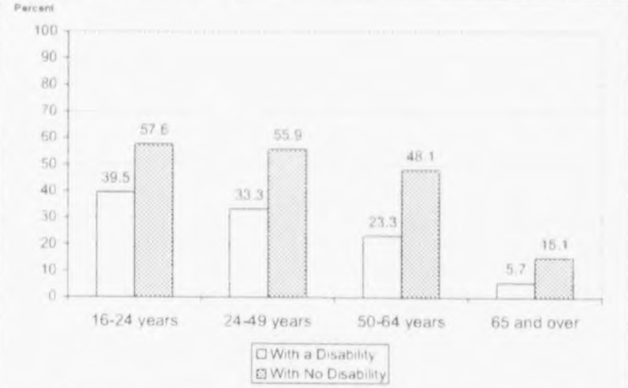
Individuals in younger age groups are more similar in their degree of home Internet access whether or not they have a disability, but the disparity rises as age increases. Figure III-14 shows that those with a disability in the 16-24 year old age range have Internet access at a rate that is nearly 90% of the rate of those without a disability. The disparity between the two groups increases with age, reaching almost 50% in the 65 and over age group. A similar type of pattern holds when considering the differences that exist between persons with and without disabilities in their experience with personal computers across age groups (see Figure III-15).

Figure III-14
Internet Access at Home by Age and Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Figure III-15
Regularly Uses a PC by Age and Disability Status, 1999

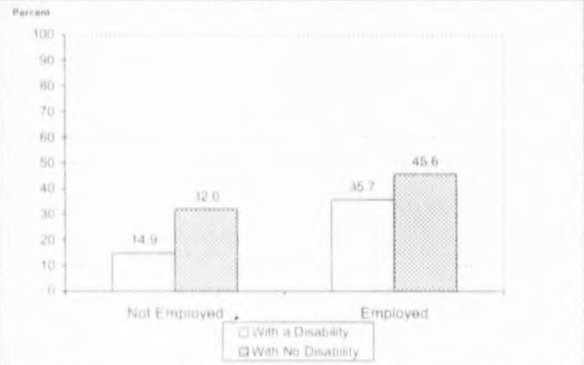


Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

EMPLOYMENT STATUS

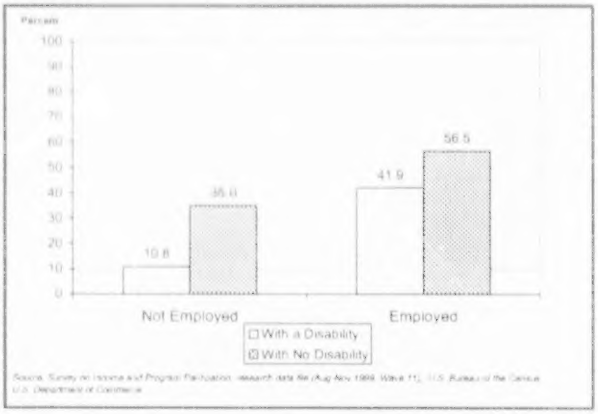
The following charts (Figures III-16 and III-17) consider disability status by employment status.[23] As noted in Figures III-8 and III-9, the majority of individuals with a disability are not employed (67.8%). When we compare home Internet access rates and regular use of PCs between those with disabilities and those without, controlling for employment status, we find employed persons in the two groups are substantially more similar, than are the non-employed groups. For example, employed persons with a disability have home Internet access at a rate that is 78.3% of that for the group with no disabilities, while among the non-employed, the access rate of people with disabilities is only 46.6% of that of the group with no disabilities.

Figure III-16
Internet Access at Home by Employment and Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Figure III-17
Regularly Uses a PC by Employment and Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

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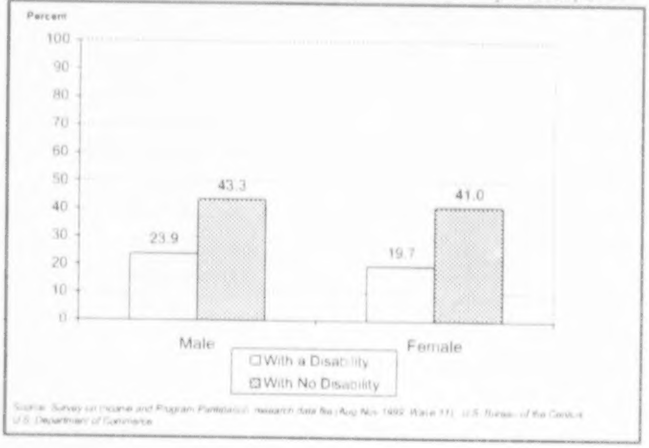
[23] Note that this section (unlike Part II) groups those who are both unemployed and seeking work with those not in the labor force instead of considering the employed and the unemployed.

GENDER

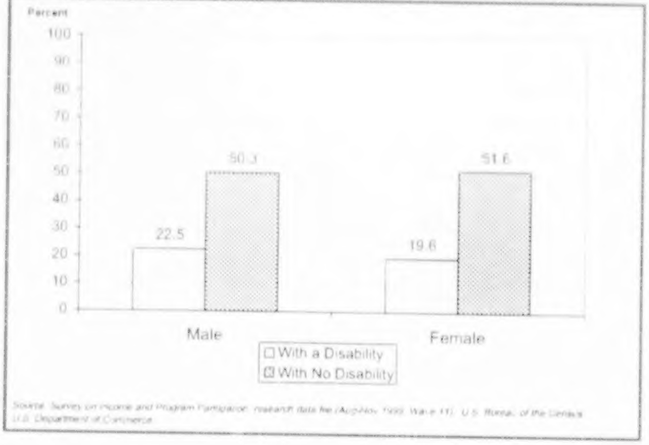
As shown in Figure III-18, males with or without disabilities are more likely than females in the comparable populations to have Internet access at home. Further the difference between the group with disabilities and the group without disabilities is larger for women, than for men (48% to 55%, respectively). This variation is even more pronounced in the comparison of the proportion of persons who regularly use a PC: even though a slightly higher proportion of women without a disability regularly use a PC, women with a disability lag men with a disability in this category (see Figure III-19).

Figure III-18
Internet Access at Home by Gender and Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Figure III-19
Regularly Uses a PC by Gender and Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Table III-2
Population Distribution by Age and Disability

	16-24		25-49		50-64		65 and older	
	No Disability	Has A Disability	No Disability	Has A Disability	No Disability	Has A Disability	No Disability	Has A Disability
Population (in thousands)	31,282	2,960	88,557	13,885	27,932	11,604	15,596	16,966
Population Distribution	91.4	8.6	86.4	13.6	70.6	29.4	47.9	52.1
Male	50.0	52.9	49.5	47.6	49.6	44.4	46.7	38.5
Female	50.0	47.1	50.5	52.4	50.4	55.6	53.3	61.5
White Non-Hisp.	64.9	66.4	71.9	68.8	81.3	73.9	86.4	80.8
Black Non-Hisp	14.0	18.2	11.7	16.3	8.0	13.5	6.5	9.6
Asian Am. and Pacific Islanders	4.3	1.4	3.9	2.5	3.0	2.5	2.2	2.5
Hispanic	15.7	10.9	11.7	10.7	7.1	8.8	4.6	6.1
Employed	59.6	43.2	86.9	54.9	80.3	38.4	21.5	7.5
Not Employed	40.4	56.8	13.1	45.1	19.7	61.6	78.5	92.5
Less than $25,000	27.4	38.5	20.3	42.6	18.7	41.4	44.9	60.1
$25,000 - $49,999	25.5	26.0	31.2	29.1	27.5	29.2	32.6	25.8
$50,000 - $74,999	20.0	15.1	22.9	15.9	22.7	16.6	12.7	8.2
$75,000 and above	27.1	20.4	25.6	12.4	31.1	12.8	9.8	5.9
Not a High School Graduate			9.5	21.3	11.3	29.8	24.7	40.6
High School Graduate			30.3	37.0	31.8	33.4	36.5	30.8
Some College			31.2	28.5	27.7	23.6	21.3	17.9
College Graduate			28.9	13.2	29.2	13.2	17.5	10.7

Source: Survey on Income and Program Participation, research data file (August -November 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Note: Educational attainment not reported for 16-24 year olds in this table because over 50% of this age group are full-time students

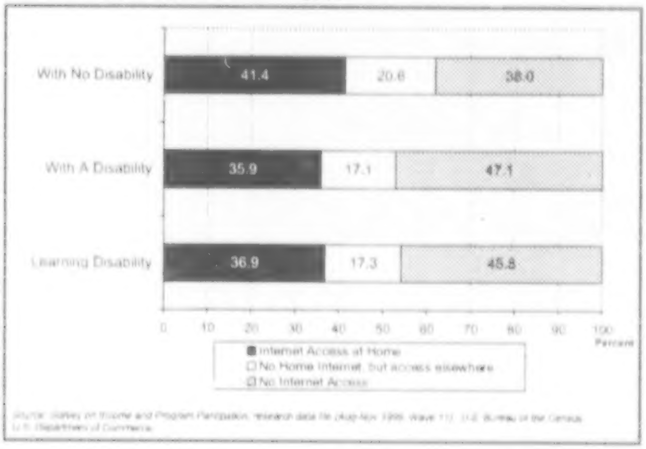
While any of the above socio-economic variables would provide an interesting basis by which to consider specific disabilities in greater detail, age is the variable selected here. As people age, they are increasingly likely to develop a disability. Fewer than 9% of people between the ages of 16 and 24 have a disability, but more than half of those 65 and older have at least one type of disability. (Table III-7 and III-9). And as shown in Table III-2, although differences remain between those groups with and without disabilities in each of the four age groups considered here across variables such as gender, race/ethnicity, employment status, and income, these differences are less than the differences shown in Table III-7.

ACCESS, USE, AND DISABILITY: 16-24 YEAR OLDS

This youngest of the age groups for which SIPP computer use and Internet access data are available has the highest rates of Internet and computer use, and members of this age group are least likely to have a disability. Of the population with a disability, just under 3 million fall into the 16-24 year old range, limiting the amount of disaggregation that can be presented for this age group. Of the specific disabilities considered in this report, only learning disabilities had a sample size sufficient to produce reliable results. Those with learning disabilities make up 2.8% of the population in this age group, while the other disabilities of difficulty walking, seeing, hearing, and using one's hands each make up less than 1% of this population group.

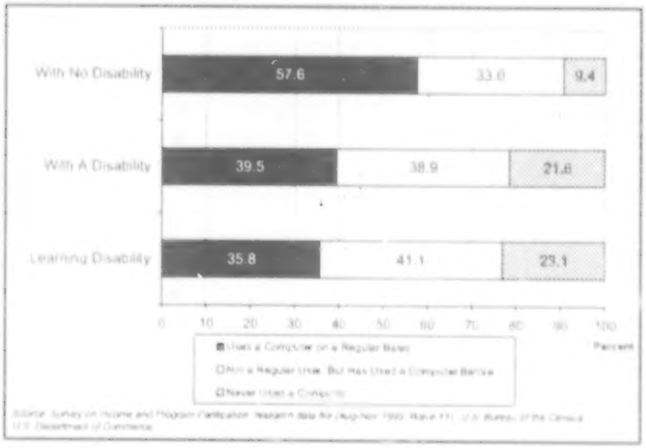
Although 16-24 year olds with disabilities have lower rates of Internet access and are less likely to have used a PC, the differences between people who have a disability and people who do not are much smaller than for the entire 16 and over population (Figures III-20 and III-21). Table III-3 shows how Internet access and PC use varies across several sets of characteristics. Of special note is the fact that Internet access is the same for people who have a disability and are employed, as for people who do not have a disability and are employed. A separate breakout of educational attainment is not included for this age group because over half of the people in this age category are full-time students.

Figure III-20
Internet Access Among 16-24 Year Olds by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999; Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce.

Figure III-21
Personal Computer Use Experience Among 16-24 Year Olds by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999; Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce.

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Table III-3
Internet Access and Computer Use by 16-24 Year Olds
(Population: 34,242,000)

	Home Internet Access		Internet Access, But Not At Home		Regular PC User		Never Used a PC	
	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability
All 16-24 Year Olds	41.4	35.9	20.6	17.1	57.6	39.5	9.4	21.6
Male	41.5	34.8	19.4	15.1	54.8	35.5	10.1	22.6
Female	41.2	37.1	21.9	19.2	60.3	44.0	8.8	20.5
White Non-Hisp.	50.0	44.7	20.1	16.0	64.4	46.5	5.6	16.2
Black Non-Hisp	22.8		23.5		41.1	23.4	16.8	35.8
Asian Am. and Pacific Islanders	48.3		20.1		69.0		5.4	
Hispanic	21.6		20.2		41.6	30.8	18.6	31.3
Employed	44.4	43.4	19.8	19.6	59.1	48.8	8.0	10.9
Not Employed	36.9	30.1	21.9	15.1	55.3	32.4	11.5	29.7
Less than $25,000	24.6	25.0	23.4	19.5	42.6	28.6	14.7	27.7
$25,000 - $49,999	35.7	32.8	23.0	17.8	55.1	37.5	10.4	22.3
$50,000 - $74,999	46.3		19.2		63.2		8.1	16.4
$75,000 and above	60.0	57.4	16.6	14.1	70.8	59.2	4.2	13.1
Full-Time Students	49.1	43.0	24.5	19.8	69.1	50.2	4.5	16.6

Source: Survey on Income and Program Participation, research data file (August -November 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Note: Blank cells in the table indicate insufficient sample size to produce reliable estimates

ACCESS, USE, AND DISABILITY: 25-49 YEAR OLDS

Although data presented in Part II indicate that the proportion of individuals using the Internet remains relatively constant over every age in this grouping, there are substantial differences in access when considered across characteristics such as income and educational attainment (see Table III-4). For example, college graduates in the 25-49 year old age group had very similar rates of home Internet access regardless of disability status (67.8% for those with no disability and 65.2% for those with a disability). In addition, there are differences among the people with various disabilities within this group. Those with hearing difficulties had an Internet access rate of 52.7%, roughly half-way between the 61.6% rate for those without a disability and the rates in the low 40s for those with other disabilities.

Figure III-22
Internet Access Among 25-49 Year Olds by Disability Status, 1999

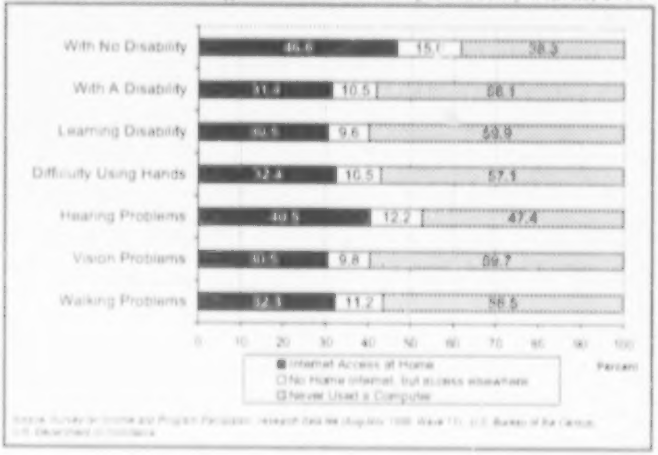
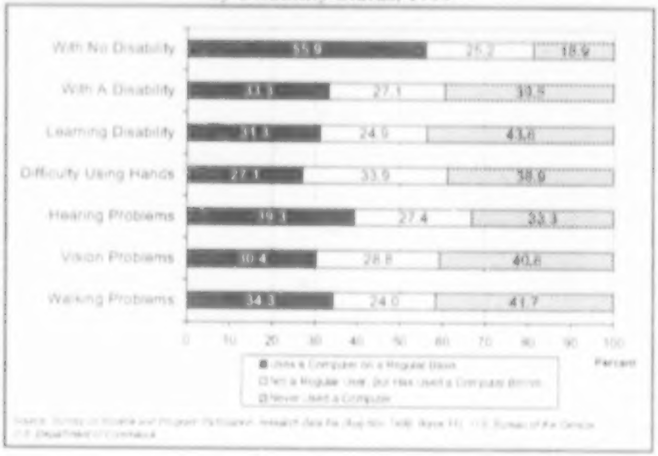


Figure III-23
Personal Computer Use Experience Among 25-49 Year Olds by Disability Status, 1999



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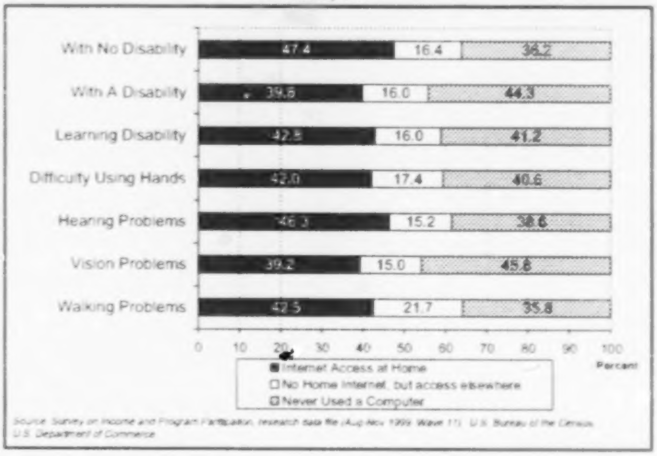
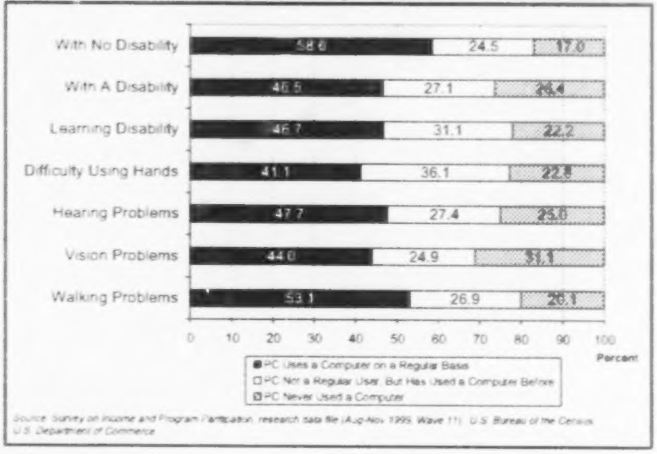
This age group has the highest proportion employed of any age group considered here and although the proportion employed on a full-time basis among those with no disabilities (86.9%) exceeds the proportion of those with a disability who are likewise employed (54.9%), there are sufficient numbers in both groups to take a detailed look at variations by disability status. As shown in Figures III-24 and III-25, differences in Internet access and computer use are less when considering only those in each group who were employed on a full-time basis[24].

Figure III-24
Internet Access Among Employed 25-49 Year Olds by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Figure III-25
Personal Computer Use Experience Among Employed 25-49 Year Olds by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

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[24] The data in Figures III-24 and III-25 refer to those who were employed on a full-time basis for the reference period of the survey. Data in Table III-4 and elsewhere consider people who had any employment (full or part-time) during the reference period to be employed.

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Table III-4
Internet Access and Computer Use by 25-49 Year Olds
(Population: 102,442,000)

	Home Internet Access		Internet Access, But Not At Home		Regular PC User		Never Used a PC	
	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability
All 25-49 Year Olds	46.6	31.4	15.0	10.5	55.9	33.3	18.9	39.5
Male	47.3	31.6	13.1	8.3	54.4	33.2	21.0	43.3
Female	46.0	31.2	16.9	12.5	57.4	33.5	16.8	36.1
White Non-Hisp.	53.6	37.1	15.6	11.4	62.42	39.0	12.5	32.6
Black Non-Hisp	27.4	14.8	17.4	9.2	41.8	17.8	28.2	58.6
Asian Am. and Pacific Islanders	49.9		12.2		53.9	32.8	23.2	40.0
Hispanic	23.3	18.6	9.8	6.8	31.6	21.1	47.2	54.4
Employed	47.3	39.4	16.3	15.2	58.3	45.7	17.1	26.3
Not Employed	42.4	21.6	6.5	4.8	40.3	18.3	30.6	55.7
Less than $25,000	27.7	16.9	12.4	7.7	36.5	18.0	34.6	52.9
$25,000 - $49,999	39.0	33.6	17.5	12.1	51.2	38.1	21.4	34.8
$50,000 - $74,999	53.3	44.5	14.7	12.9	61.8	45.9	13.2	28.5
$75,000 and above	64.9	59.1	14.4	13.3	71.8	58.3	8.5	19.2
Not a High School Graduate	12.2	9.4	3.8	4.0	13.6	8.9	64.0	74.8
High School Graduate	34.1	24.5	12.9	8.4	39.9	24.0	27.2	43.6
Some College	49.7	41.2	17.0	15.2	60.7	45.5	11.4	22.8
College Graduate	67.8	65.2	18.8	16.9	81.5	72.6	3.3	7.2

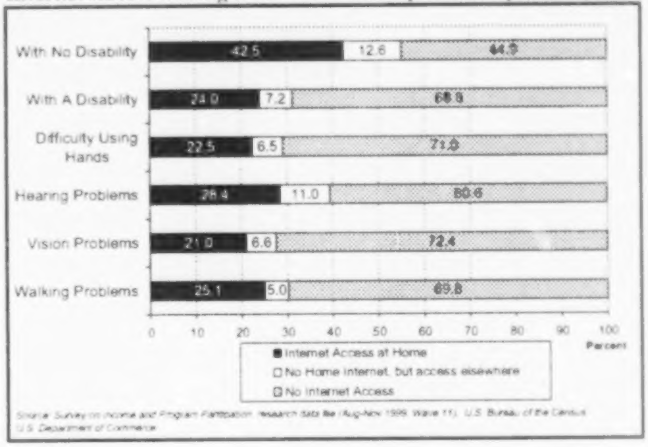
Source: Survey on Income and Program Participation, research data file (August -November 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Note: Blank cells in the table indicate insufficient sample size to produce reliable estimates.

ACCESS, USE, AND DISABILITY: 50-64 YEAR OLDS

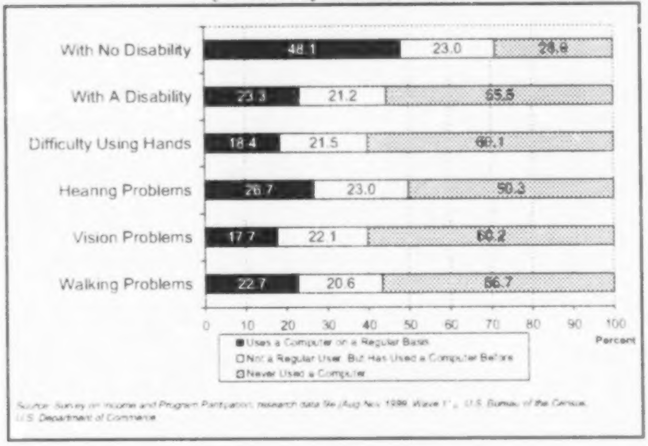
Among the 50 to 64 year old age group, 30% have at least one of the disabilities listed in Box III-2 and the proportion with any one of the five disabilities considered, with the exception of learning disabilities, is also substantially higher than in the 25-49 year old group. This is an age group that has wide variations in Internet access and computer use within the group of people who have disabilities. For example, 70.9% of those who have a disability and have family income of less than $25,000 have never used a PC. That proportion falls to 29.7% in the $75,000 and above income group.

Figure III-26
Internet Access Among 50-64 Year Olds by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11). U.S. Bureau of the Census, U.S. Department of Commerce

Figure III-27
Personal Computer Use Experience Among 50-64 Year Olds by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1999, Wave 11). U.S. Bureau of the Census, U.S. Department of Commerce

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Table III-5
Internet Access and Computer Use by 50-64 Year Olds
(Population: 39,536,000)

	Home Internet Access		Internet Access, But Not At Home		Regular PC User		Never Used a PC	
	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability
All 50-64 Year Olds	42.5	24.0	12.6	7.2	48.1	23.5	28.9	55.5
Male	45.1	25.2	11.2	7.6	48.7	23.5	30.2	56.4
Female	39.9	23.0	13.9	6.8	47.5	23.1	27.7	54.8
White Non-Hisp.	46.6	28.2	13.2	7.8	52.8	26.8	23.8	50.4
Black Non-Hisp	23.8	10.0	11.5	7.1	31.0	14.9	45.8	66.9
Asian Am. and Pacific Islanders	34.2		10.4		31.8		46.8	
Hispanic	20.6		7.2		21.3	10.2	61.4	77.3
Employed	44.2	32.8	14.8	14.3	52.6	39.9	25.6	36.8
Not Employed	35.5	18.5	3.8	2.7	29.6	12.9	42.7	67.2
Less than $25,000	23.6	12.2	10.5	4.2	28.1	10.9	47.3	70.9
$25,000 - $49,999	31.2	23.9	12.6	8.3	40.7	24.8	34.6	52.6
$50,000 - $74,999	46.5	30.5	12.9	10.7	51.5	33.8	25.2	42.3
$75,000 and above	60.8	54.2	13.6	9.6	64.1	46.3	15.6	29.7
Not a High School Graduate	13.6	7.4	4.0	1.8	11.4	5.8	73.6	83.5
High School Graduate	30.6	17.6	11.9	7.1	34.0	17.3	39.8	59.4
Some College	45.7	39.4	13.7	10.7	52.1	38.6	19.4	33.6
College Graduate	63.6	50.2	15.6	13.2	73.8	50.4	8.9	21.7

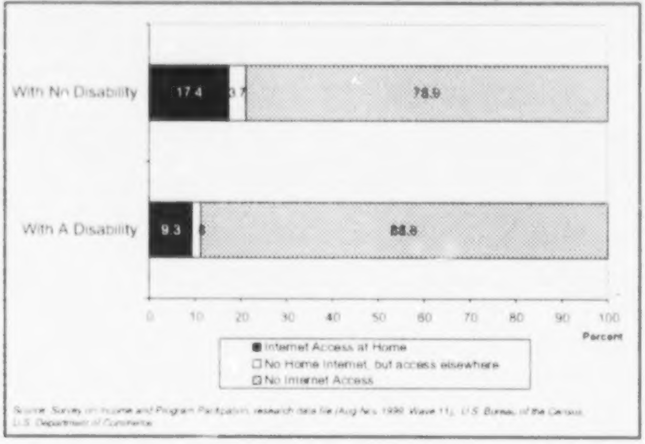
Source: Survey on Income and Program Participation, research data file (August -November 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Note: Blank cells in the table indicate insufficient sample size to produce reliable estimates.

ACCESS, USE, AND DISABILITY: 65 YEAR OLDS AND OLDER

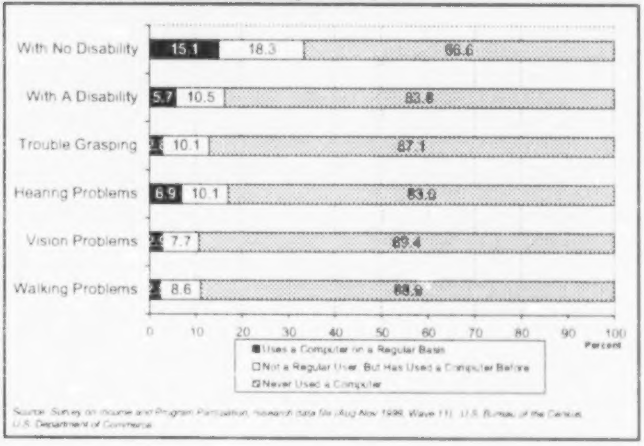
Over one-half (52.1%) of the population in this age group has a disability. Considering it another way, this age group accounts for only 15.6% of the population as a whole, but over one-third (37.4%)of the total number of people with a disability. This age group has very low rates of home Internet access and computer use generally, and the rates for those with a disability are very low. Therefore, even with the large number of those with a disability, low rates of home Internet access make it impossible to distinguish between individual types of disabilities for Figure III-28.

Figure III-28
Internet Access Among 65 and Older, by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1998, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Figure III-29
Personal Computer Use Experience Among 65 and Older by Disability Status, 1999



Source: Survey on Income and Program Participation, research data file (Aug-Nov 1998, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce

Table III-6
Internet Access and Computer Use by 65 Year Olds and Older
(Population: 4,221,000)

	Home Internet Access		Internet Access, But Not At Home		Regular PC User		Never Used a PC	
	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability
All 65 and Older	17.4	9.3	3.7	1.8	15.1	5.7	66.6	83.8
Male	20.2	12.5	3.9	1.9	19.7	7.6	63.0	79.8
Female	15.0	7.4	3.5	1.8	11.0	4.5	69.8	86.3
White Non-Hisp.	18.6	10.4	3.7	2.0	16.2	6.6	64.7	81.6
Black Non-Hisp								
Asian Am. and Pacific Islanders								
Hispanic								
Employed	24.6		9.8		28.4	19.2	52.1	64.2
Not Employed	15.5	8.8	2.0	1.6	11.4	4.6	70.6	85.4
Less than $25,000	9.1	4.1	2.8	1.1	7.9	2.9	78.9	89.6
$25,000 - $49,999	18.0	13.0	3.1	2.6	18.2	8.2	59.5	78.1
$50,000 - $74,999	31.3		5.5		22.7	12.3	52.8	69.0
$75,000 and above	36.1		7.3		27.3	13.8	51.9	70.8
Not a High School Graduate	5.3		1.6		3.5	1.7	87.6	94.4
High School Graduate	12.5	9.0	3.0	1.6	10.2	4.5	72.1	84.1
Some College	23.8	13.4	5.2	3.1	20.2	8.9	56.3	73.7
College Graduate	37.1	23.8	6.3	4.9	35.4	19.4	38.1	59.8

Source: Survey on Income and Program Participation, research data file (August -November 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce.

Note: Blank cells in the table indicate insufficient sample size to produce reliable estimates.

Table III-7
Individuals 16 and over
(Numbers in Thousands)

	Total Population		Persons without a Disability		Persons with a Disability	
	Number	Percent	Number	Percent	Number	Percent
TOTAL	208,783		163,367	78.2	45,416	21.8
GENDER						
Male	100,449	48.1	80,580	49.3	19,869	43.7
Female	108,334	51.9	82,787	50.7	25,547	56.3
AGE						
16 to 24	34,241	16.4	31,282	19.1	2,960	6.5
25 to 49	102,442	49.1	88,557	54.2	13,885	30.6
50 to 64	39,536	18.9	27,932	17.1	11,604	25.5
65 +	32,563	15.6	15,596	9.6	16,996	37.4
FAMILY INCOME						
Less than $25,000	60,767	29.1	38,723	23.7	22,045	48.5
$25,000 to $49,999	60,976	29.2	48,405	29.6	12,571	27.7
$50,000 to $74,999	40,868	19.6	34,892	21.4	5,976	13.2
$75,000 or more	46,170	22.1	41,347	25.3	4,824	10.6
EMPLOYMENT STATUS						
Employed	136,030	65.2	121,398	74.3	14,632	32.2
Not Employed	72,753	34.8	41,969	25.7	30,784	67.8
RACE/ETHNICITY						
White, Non-Hispanic	154,011	73.8	120,203	73.6	33,808	74.4
Black, Non-Hispanic	24,004	11.5	18,000	11.0	6,004	13.2
Asian Am.. and Pacific Islander	7,089	3.4	5,984	3.7	1,105	2.4
Hispanic	21,836	10.5	17,965	11.0	3,871	8.5

Source: Survey on Income and Program Participation, research data file (August -November 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce.

Table III-8
Internet Access and Computer Use
(208,784,000)

	Home Internet Access		Internet Access, But Not At Home		Regular PC User		Never Used a PC	
	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability	No Disability	Has a Disability
All Persons 16 and Above	42.1	21.6	14.6	6.8	51.0	20.8	23.3	59.0
Male	43.3	23.9	13.2	6.6	50.3	22.5	24.2	57.1
Female	41.0	19.7	16.0	7.1	51.6	19.6	22.5	60.5
16-24 year olds	41.4	35.9	20.6	17.0	57.6	39.5	9.4	21.6
25-49 year olds	46.6	31.4	15.0	10.5	55.9	33.3	18.9	39.5
50-64 year olds	42.5	24.0	12.6	7.2	47.1	23.3	28.9	55.5
65 and older	17.5	9.3	3.7	1.8	15.1	5.7	66.6	83.8
White Non-Hisp.	47.7	24.4	14.6	7.0	55.8	23.2	19.3	56.0
Black Non-Hisp	24.7	10.1	17.4	7.8	38.3	13.2	30.5	68.1
Asian Am. and Pacific Islander	45.9	23.4	13.4		51.8	16.6	25.2	67.2
Hispanic	21.9	14.6	12.0	4.8	32.2	13.9	42.3	69.1
Less than $25,000	23.1	10.4	12.8	4.5	31.6	10.0	39.9	72.5
$25,000 - $49,999	35.0	23.8	16.1	8.1	46.7	24.1	25.7	53.9
$50,000 - $74,999	49.6	34.2	14.6	10.1	57.9	34.0	16.7	41.5
$75,000 and above	62.0	51.3	14.4	10.3	68.3	45.4	10.7	32.5

Source: Survey on Income and Program Participation, research data file (August -November 1999, Wave 11), U.S. Bureau of the Census, U.S. Department of Commerce.

Note: Blank cells in the table indicate insufficient sample size to produce reliable estimates.

Table III-9
Disability by Age

	16-24 (34,241,000)	25-49 (102,442,000)	50-64 (39,536,000)	65 and above (32,563,000)
No Disability	91.4	86.4	70.6	47.9
Has a Disability	8.6	13.6	29.4	52.1
Difficulty Walking	0.4	1.4	4.8	17.7
Difficulty Seeing	0.5	1.7	4.1	11.4
Difficulty Hearing	0.7	1.3	3.7	12.0
Difficulty Grasping	0.3	1.5	4.0	9.4
Learning Disability	2.8	1.4	1.1	0.5

Source: Survey on Income and Program Participation, research data file (August -November 1999, Wave 11), U.S Bureau of the Census, U.S. Department of Commerce

CONCLUSION - A LOOK AHEAD

More and more Americans have computers and use the Internet. If current trends continue, we expect more than half of all U.S. households will be connected to the Internet by the end of 2000, and more than half of all individuals will be using the Internet by the middle of 2001. We are approaching the point where not having access to these tools is likely to put an individual at a competitive disadvantage and in a position of being a less-than-full participant in the digital economy. Most groups, regardless of income, education, race or ethnicity, location, age, or gender are making dramatic gains. Nevertheless, some large divides still exist and groups are going online at different rates.

The detailed information in this report provides a basis against which we can measure change. We have good data on household access as well as on individual access and use. The latter data will become increasingly important as Americans access the Internet not only from their homes, but also from new hand-held and mobile devices. And, for the first time, we now have information on the use of the Internet by people with disabilities, as well as new technologies such as broadband services. These data can help policymakers focus policies and programs to promote inclusion in using computers and the Internet. Our next survey, to be conducted in September 2001, will give us fresh results and a new opportunity to measure progress.

The nation is rapidly going online, with an ever higher share of Americans regularly using computers and the Internet in their daily lives. The U.S. Department of Commerce will continue to work vigorously to better measure, understand, and promote the goal of full digital inclusion for all Americans.

METHODOLOGY

This report is the fourth in the Department of Commerce's *Falling Through the Net* series, which surveys trends in Americans' access to new technologies.[25] As in our previous reports, we utilize data from the Department of Commerce's U.S. Census Bureau. The household data in Part I, and the individual access and usage data in Part II, of this report come from the Census Bureau's August 2000 Current Population Survey (CPS) of approximately 48,000 sample households. For the first time in this series, we also report on access to new technologies by people with disabilities (in Part III), using data from the Census Bureau's Survey of Income and Program Participation (SIPP).

CURRENT POPULATION SURVEY

In collecting household and individual data for the CPS, the Census Bureau interviewed approximately 48,000 sample households. These households were selected from the 1990 Decennial Census files continually updated to account for new residential construction after 1990. The CPS sample is representative of all fifty states and the District of Columbia.

For each household, Census Bureau interviewers spoke to a person (called the "respondent") who was at least 15 years old and was considered knowledgeable about everyone in the household. The respondent provided information for the entire household including the demographics (such as education level, race, and age) of each household member and the income level for the household. The "householder" or "reference person" is an adult in the household who either owns or has signed for the rent on the residence. The respondent provided responses for him or herself and proxy responses for all other members of that household. The survey, therefore, provided information on 121,745 individuals (including children).

As in the prior three reports, the Census Bureau cross-tabulated the information gathered from the CPS according to specific variables, such as income, race, education level, household type, and age as well as by geographic categories, such as rural, urban, and central city, plus state and region. The Census Bureau determined that some of the data were statistically insignificant for meaningful analysis because the sample from which they were derived was too small.

All statistics are subject to sampling error, as well as non-sampling error such as survey design flaws, respondent classification and reporting errors, data processing mistakes and undercoverage. The Census Bureau has taken steps to minimize errors in the form of quality control and edit procedures to reduce errors made by respondents, coders, and interviewers.

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[25] The first report, *Falling Through the Net: A Survey of the "Have Nots" in Rural and Urban America* (July 1995), surveyed household telephone, computer, and modem ownership. *Falling Through the Net II: New Data on the Digital Divide* (July 1998), presented updated data on household access to telephones, computers, and the Internet. *Falling Through the Net: Defining the Digital Divide* (July 1999) provided new data on household access to these technologies, and also provided new information on individual Internet access and usage.

Ratio estimation to independent age-race-sex-Hispanic population controls partially corrects for bias attributable to survey undercoverage. However, biases exist in the estimates when missed people have characteristics different from those of interviewed people in the same age-race-sex-Hispanic group.

SURVEY OF INCOME AND PROGRAM PARTICIPATION

Information on people with disabilities was gathered from the SIPP, sponsored and conducted by the Census Bureau. This survey is a continuous series of national panels, with sample size ranging from approximately 11,500 to 36,700 interviewed households. The duration of each panel ranges from 2 ½ years to 4 years. The SIPP sample is a multistage-stratified sample of the U.S. civilian noninstitutionalized population. The 4-year panel containing the disability data was introduced in April 1996.

To facilitate field procedures, each sample panel is divided into four random subsamples, each representative of the Nation, called "rotation groups." Each rotation group is interviewed in a separate month. Four rotation groups thus comprise one cycle or wave of interviewing for the entire panel. At each interview, respondents are asked to provide information covering the 4 months since the previous interview. This 4-month span is the "reference period" for the interview.

The SIPP content is built around a "core" of labor force, program participation, and income questions designed to measure the economic situation of persons in the United States. These questions expand the data currently available on the distribution of cash and noncash income and are repeated at each interviewing wave. Census Bureau field representatives conduct the interviews by telephone and by personal visit using laptop computers.

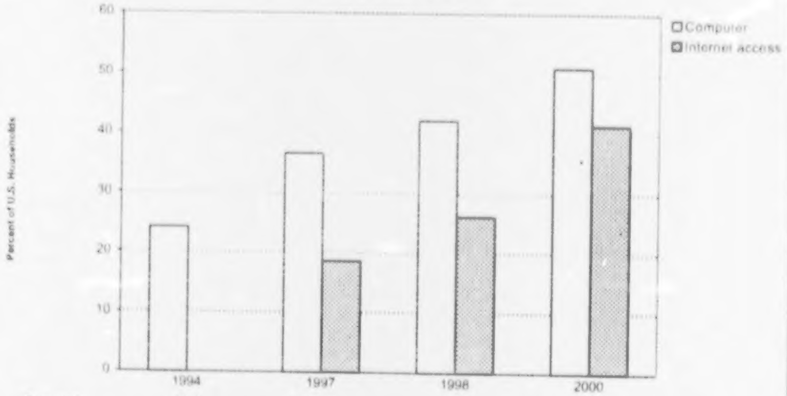
The survey has been designed also to provide a broader context for analysis by adding questions on a variety of topics not covered in the core section. These questions are labeled "topical modules" and are assigned to particular interviewing waves of the survey. Topics covered by the modules include personal history, child care, wealth, program eligibility, child support, disability, school enrollment, taxes, and annual income. Wave 11 conducted between August and November 1999 contained a topical module on adult disability to which questions of Internet access and computer use were added. This module can be found at http://www.sipp.census.gov/sipp/top_mod/1996/quests/wave11/ adultdis.html.

SIPP estimates are subject to errors of two different kinds: sampling error, or errors due to the fact that the results from the SIPP sample may differ from those that might have been obtained if the entire population had been surveyed (i.e., if a census had been taken); and nonsampling errors, or errors due to undercoverage and nonresponse, and errors made during data collection and processing.

APPENDIX

Figure A1

Percent of U.S. Households with a Computer and Internet Access
1994, 1997, 1998, 2000

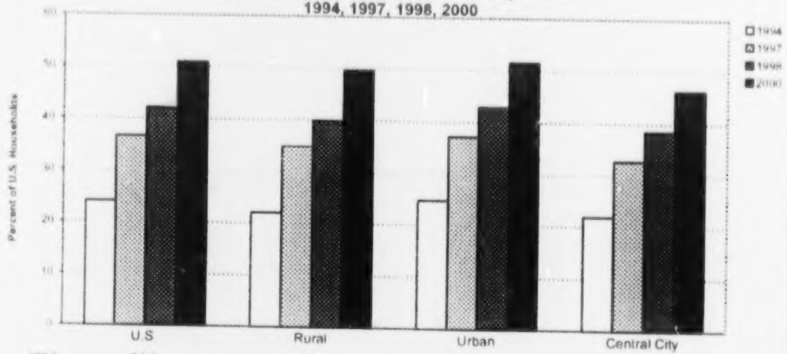


	1994	1997	1998	2000
Computer	24.1	36.6	42.1	51.0
Internet access		18.6	26.2	41.5

Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

Figure A2

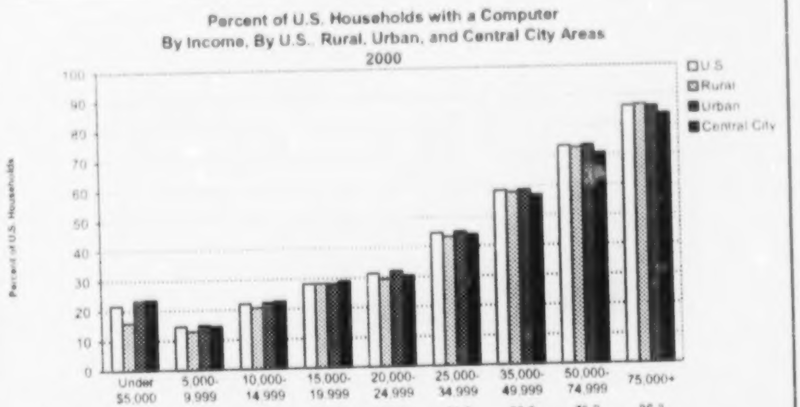
Percent of U.S. Households with a Computer
By U.S., Rural, Urban, and Central City Areas
1994, 1997, 1998, 2000



	U.S	Rural	Urban	Central City
1994	24.1	22.1	24.8	22.0
1997	36.6	34.9	37.2	32.8
1998	42.1	39.9	42.9	38.5
2000	51.0	49.6	51.5	46.3

Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

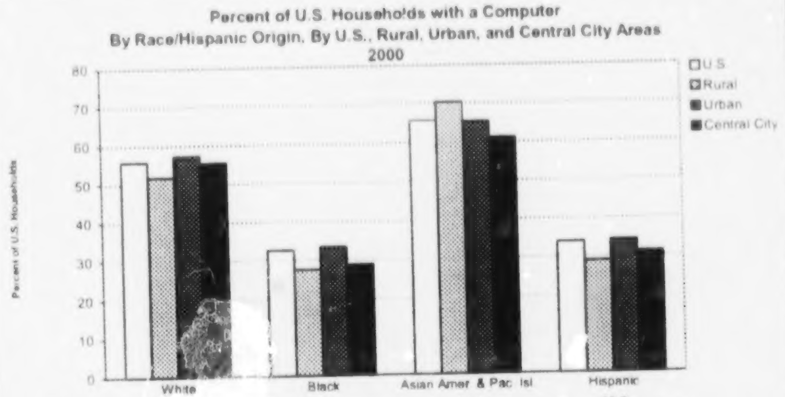
Figure A3



	Under $5,000	5,000-9,999	10,000-14,999	15,000-19,999	20,000-24,999	25,000-34,999	35,000-49,999	50,000-74,999	75,000+
U.S.	21.8	14.6	22.0	28.4	31.4	44.6	58.6	73.2	86.3
Rural	16.0	13.0	20.7	28.3	29.4	43.3	58.1	72.7	86.8
Urban	23.6	15.1	22.4	28.4	32.1	45.1	58.8	73.4	86.2
Central City	23.7	14.7	22.8	29.0	30.6	44.2	57.1	70.7	83.7

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

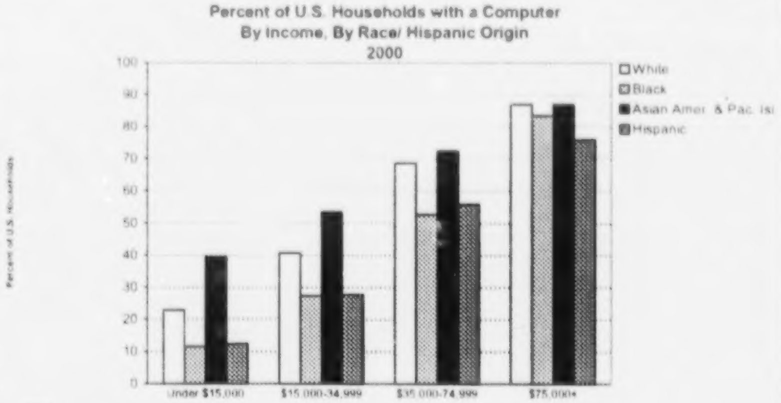
Figure A4



	White	Black	Asian Amer. & Pac. Isl.	Hispanic
U.S.	55.7	32.6	65.6	33.7
Rural	51.8	27.5	70.3	28.8
Urban	57.3	33.3	65.3	34.2
Central City	55.5	28.7	61.1	31.1

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

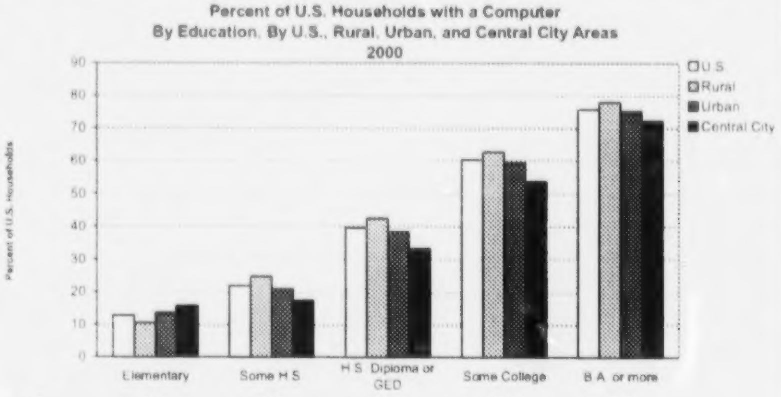
Figure A5



	Under $15,000	$15,000-34,999	$35,000-74,999	$75,000+
White	22.8	40.8	68.7	87.0
Black	11.5	27.3	52.7	83.4
Asian Amer. & Pac. Isl.	39.4	53.5	72.4	86.9
Hispanic	12.5	27.8	55.9	76.1

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A6



	Elementary	Some H.S.	H.S. Diploma or GED	Some College	B.A. or more
U.S.	12.8	21.9	39.6	60.3	75.7
Rural	10.5	24.6	42.6	62.9	77.8
Urban	13.7	20.9	38.3	59.5	75.3
Central City	15.8	17.4	33.2	53.7	72.2

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

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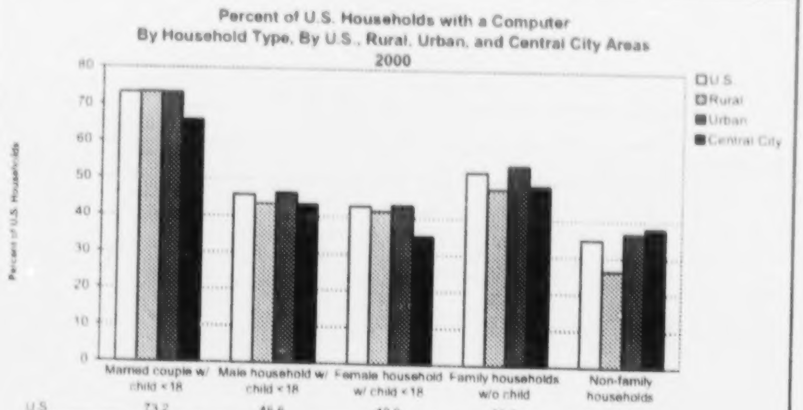
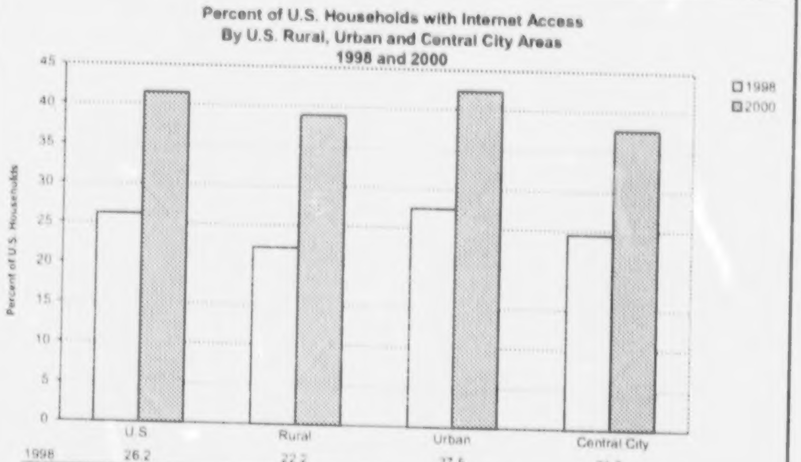
Figure A7



	Married couple w/ child <18	Male household w/ child <18	Female household w/ child <18	Family households w/o child	Non-family households
U.S.	73.2	45.6	42.9	52.5	34.6
Rural	73.3	43.3	41.6	48.0	26.2
Urban	73.2	46.3	43.2	54.4	36.5
Central City	65.9	43.1	34.9	48.9	37.9

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

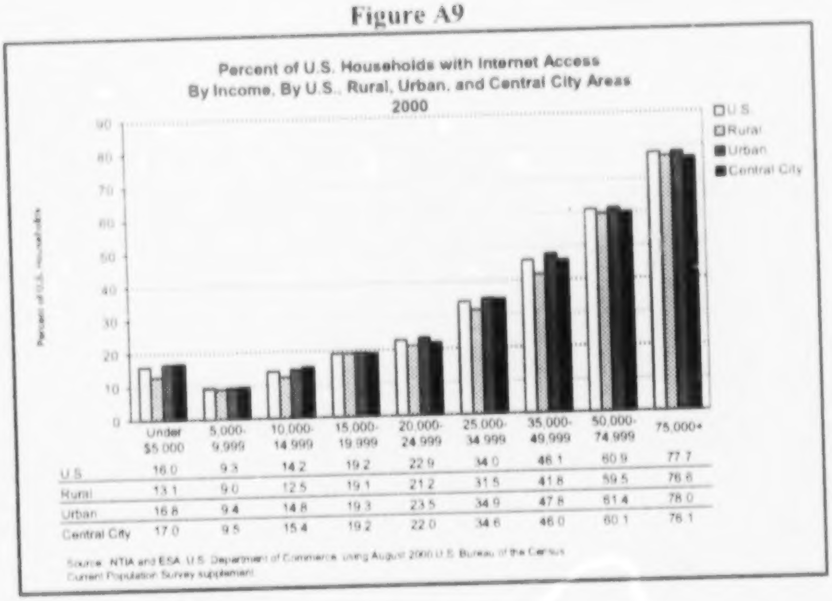
Figure A8



	U.S.	Rural	Urban	Central City
1998	26.2	22.2	27.5	24.5
2000	41.5	38.9	42.3	37.7

Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Bureau of the Census Current Population Survey supplements

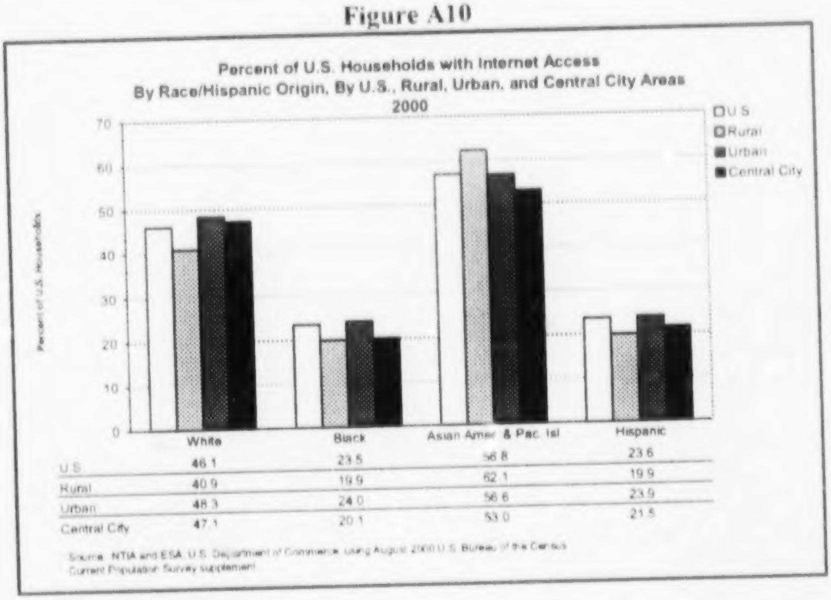
Figure A9



	Under $5,000	5,000-9,999	10,000-14,999	15,000-19,999	20,000-24,999	25,000-34,999	35,000-49,999	50,000-74,999	75,000+
U.S.	16.0	9.3	14.2	19.2	22.9	34.0	46.1	60.9	77.7
Rural	13.1	9.0	12.5	19.1	21.2	31.5	41.8	59.5	76.6
Urban	16.8	9.4	14.8	19.3	23.5	34.9	47.8	61.4	78.0
Central City	17.0	9.5	15.4	19.2	22.0	34.6	46.0	60.1	76.1

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A10

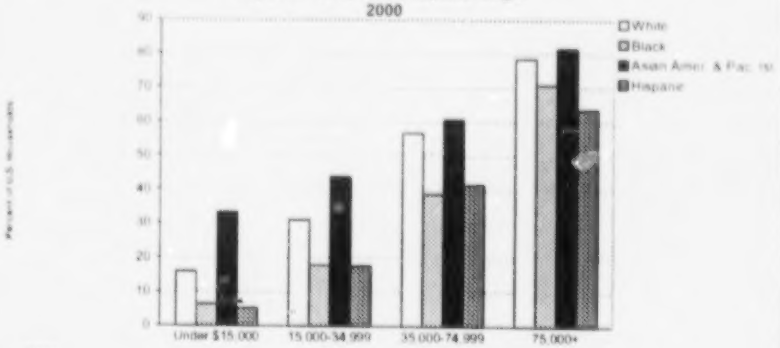


	White	Black	Asian Amer. & Pac. Isl.	Hispanic
U.S.	46.1	23.5	56.8	23.6
Rural	40.9	19.9	62.1	19.9
Urban	48.3	24.0	56.6	23.9
Central City	47.1	20.1	53.0	21.5

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A11

Percent of U.S. Households with Internet Access
By Income, By Race/Hispanic Origin
2000

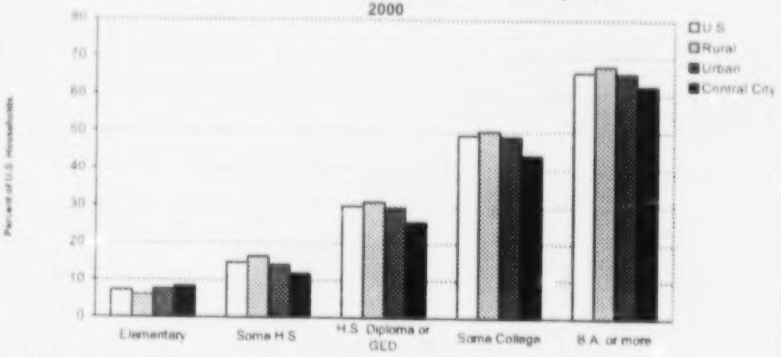


	Under $15,000	15,000-34,999	35,000-74,999	75,000+
White	16.0	31.0	56.7	78.6
Black	6.4	17.9	38.7	70.9
Asian Amer. & Pac. Isl.	33.2	43.8	60.7	81.6
Hispanic	5.2	17.7	41.5	63.7

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A12

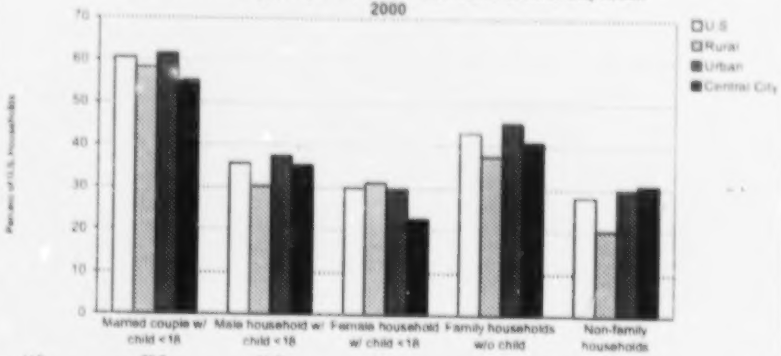
Percent of U.S. Households with Internet Access
By Education, By U.S., Rural, Urban, and Central City Areas
2000



	Elementary	Some H.S.	H.S. Diploma or GED	Some College	B.A. or more
U.S.	7.2	14.8	29.9	49.0	66.0
Rural	6.1	16.5	31.0	50.0	67.7
Urban	7.6	14.2	29.5	48.7	65.7
Central City	8.4	11.9	25.7	43.6	62.3

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A13

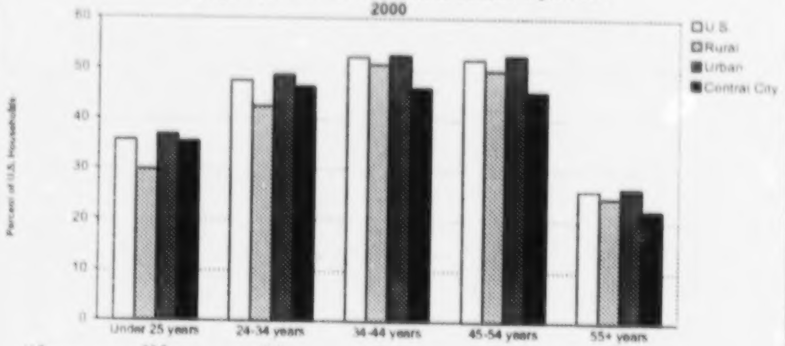


Percent of U.S. Households with Internet Access
By Household Type, By U.S., Rural, Urban, and Central City Areas
2000

	Married couple w/ child <18	Male household w/ child <18	Female household w/ child <18	Family households w/o child	Non-family households
U.S.	60.6	35.7	30.0	43.2	26.1
Rural	58.3	30.3	31.2	37.7	20.2
Urban	61.5	37.4	29.7	45.5	29.9
Central City	55.1	35.3	22.8	41.0	30.8

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A14



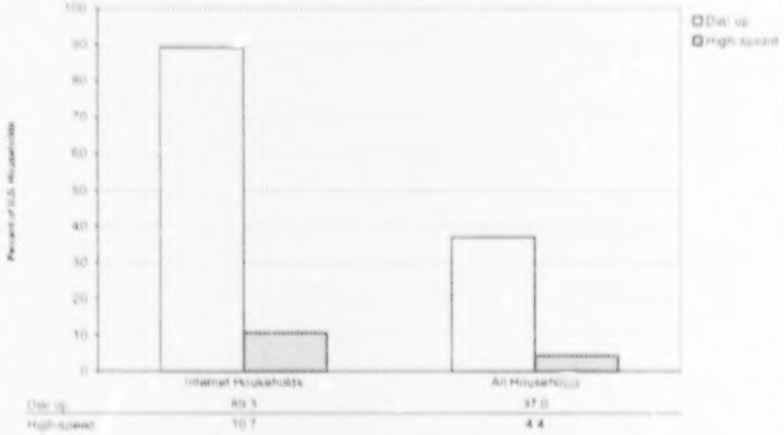
Percent of U.S. Households with Internet Access
By Age, By U.S., Rural, Urban, and Central City Areas
2000

	Under 25 years	24-34 years	34-44 years	45-54 years	55+ years
U.S.	35.7	47.5	52.3	51.9	26.0
Rural	29.8	42.5	50.9	49.6	24.8
Urban	36.9	48.7	52.7	52.7	26.5
Central City	35.5	46.4	46.2	45.4	22.2

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A15

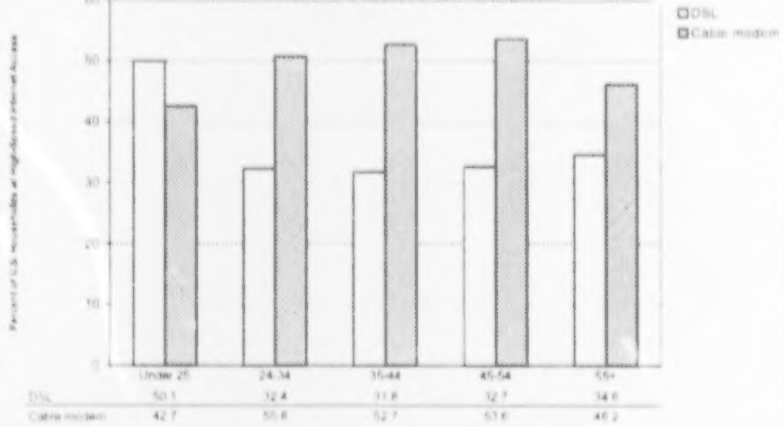
Percent of U.S. Households with High-Speed Internet Access, 2000



Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

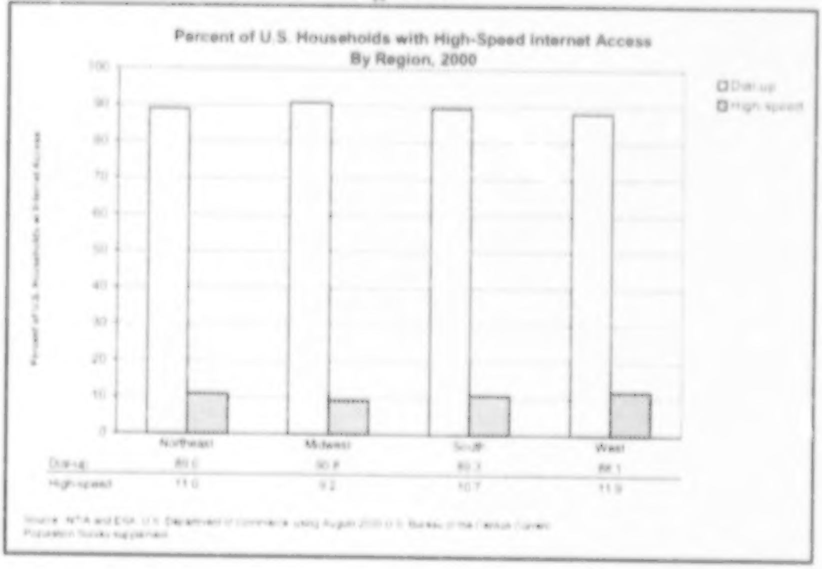
Figure A16

Percent of U.S. Households with High-Speed Internet Access By Technology and Age, 2000



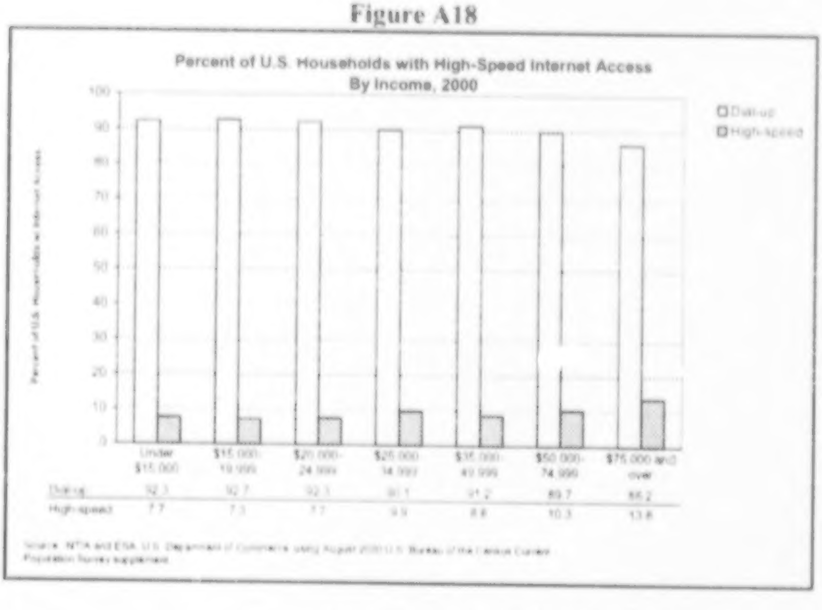
Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A17



Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A18



Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

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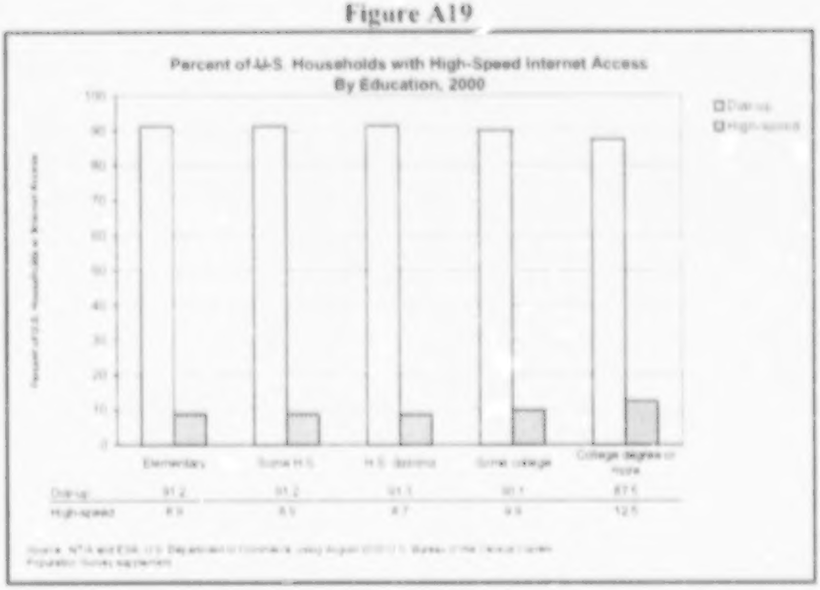
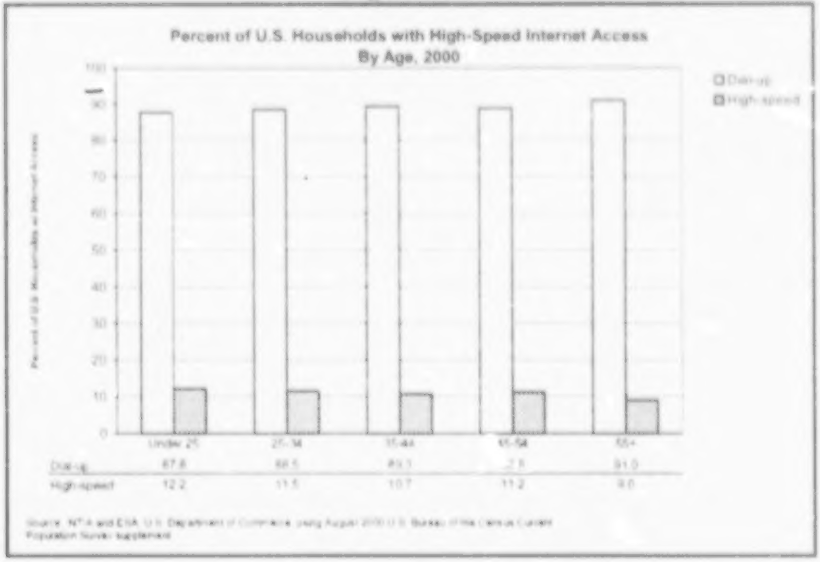
Figure A19



Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A20



Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

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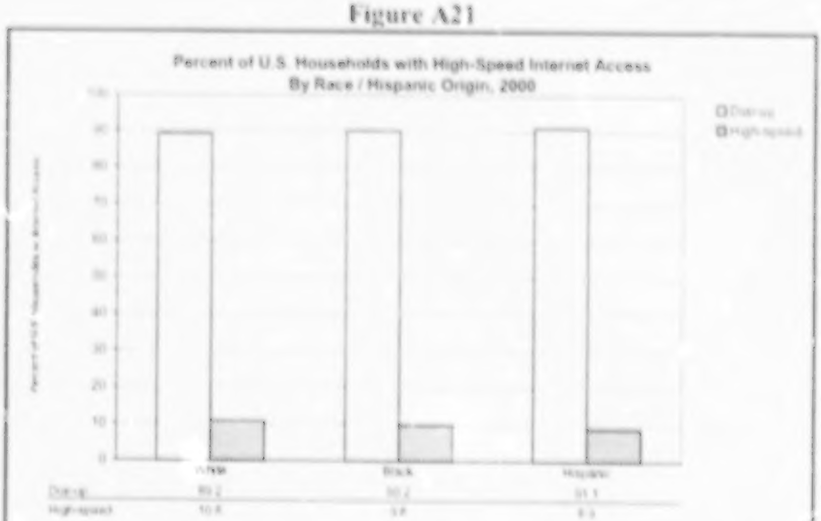
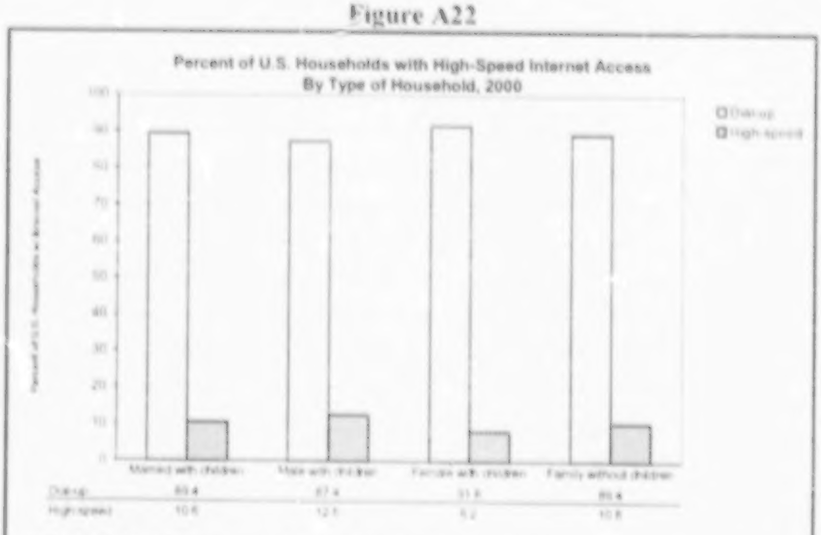
Figure A21



	White	Black	Hispanic
Dial-up	89.2	90.2	91.1
High-speed	10.8	9.8	8.9

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

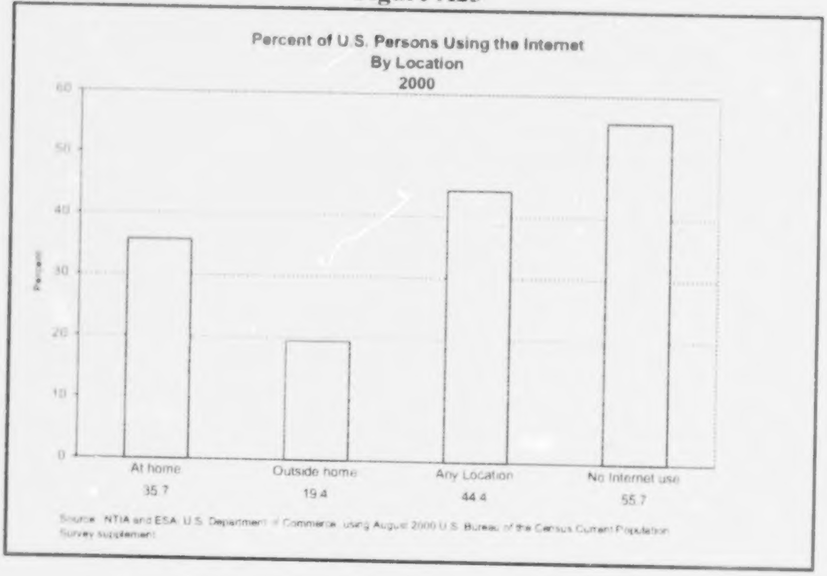
Figure A22



	Married with children	Male with children	Female with children	Family without children
Dial-up	89.4	87.9	91.8	89.4
High-speed	10.6	12.1	8.2	10.6

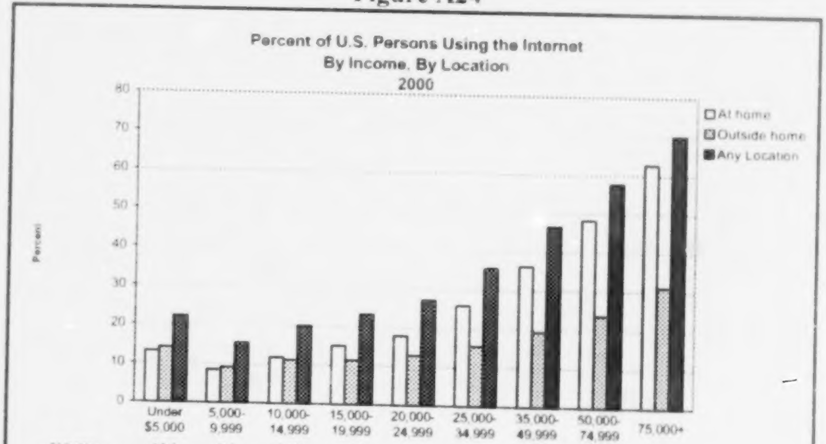
Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A23


Percent of U.S. Persons Using the Internet
By Location
2000

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A24

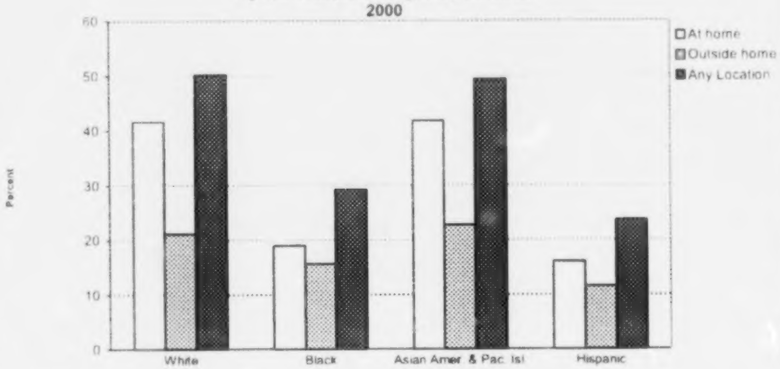

Percent of U.S. Persons Using the Internet
By Income, By Location
2000

	Under $5,000	5,000-9,999	10,000-14,999	15,000-19,999	20,000-24,999	25,000-34,999	35,000-49,999	50,000-74,999	75,000+
At home	13.1	8.4	11.9	15.1	17.8	25.9	36.3	48.3	62.8
Outside home	14.1	9.2	11.2	11.4	12.8	15.5	19.3	23.7	31.1
Any Location	22.3	15.5	20.0	23.3	27.2	35.7	46.5	57.7	70.1

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A25

Percent of U.S. Persons Using the Internet
By Race/Hispanic Origin, By Location
2000

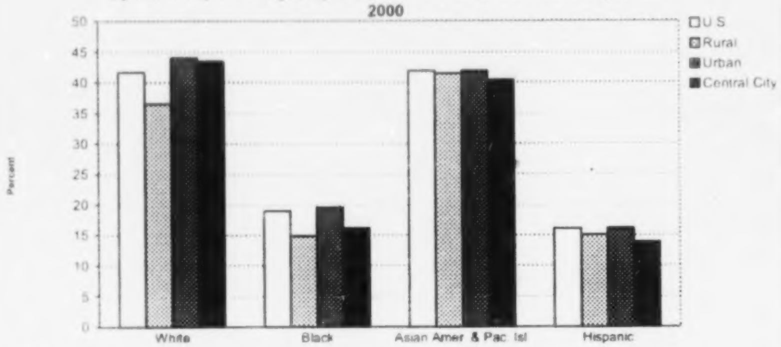


	White	Black	Asian Amer. & Pac. Isl	Hispanic
At home	41.7	18.9	41.9	16.1
Outside home	21.2	15.6	22.8	11.6
Any Location	50.3	29.3	49.4	23.7

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A26

Percent of U.S. Persons Using the Internet At Home
By Race/Hispanic Origin, By U.S., Rural, Urban, and Central City Areas
2000

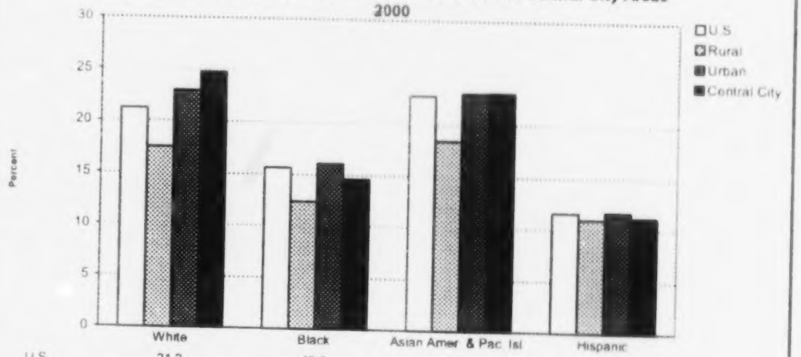


	White	Black	Asian Amer. & Pac. Isl	Hispanic
U.S.	41.7	18.9	41.9	16.1
Rural	36.6	14.9	41.5	15.0
Urban	44.1	19.5	41.9	16.2
Central City	43.5	16.2	40.4	13.9

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A27

Percent of U.S. Persons Using the Internet Outside the Home
By Race/Hispanic Origin, By U.S., Rural, Urban, and Central City Areas
2000

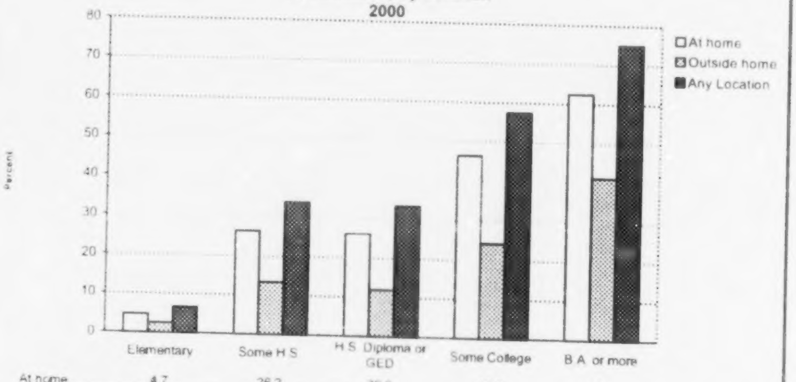


	White	Black	Asian Amer. & Pac. Isl.	Hispanic
U.S.	21.2	15.6	22.8	11.6
Rural	17.5	12.4	18.4	11.0
Urban	23.0	16.0	23.0	11.7
Central City	24.8	14.6	23.1	11.2

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A28

Percent of U.S. Persons Using the Internet
By Education, By Location
2000

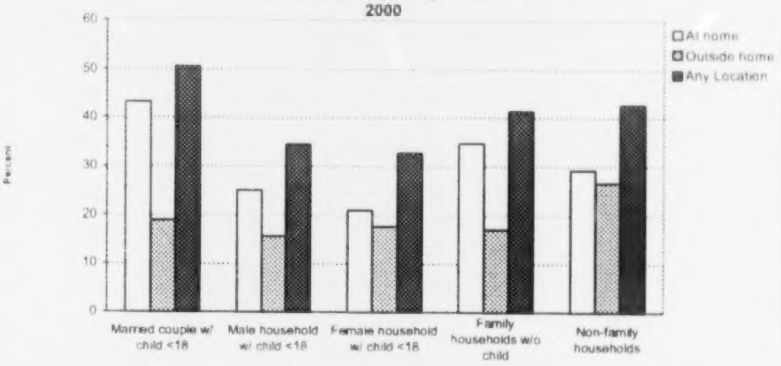


	Elementary	Some H.S.	H.S. Diploma or GED	Some College	B.A. or more
At home	4.7	26.2	26.0	46.5	62.4
Outside home	2.5	13.3	11.8	24.3	41.3
Any Location	6.5	33.6	33.3	57.6	75.0

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A29

Percent of U.S. Persons Using the Internet
By Household Type, By Location
2000

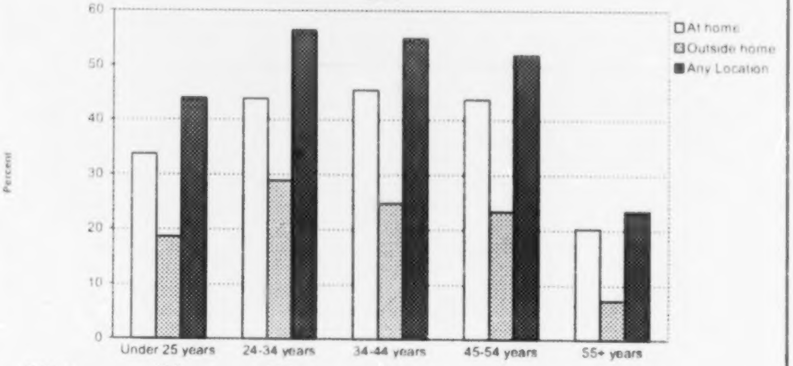


	Married couple w/ child <18	Male household w/ child <18	Female household w/ child <18	Family households w/o child	Non-family households
At home	43.3	25.0	20.9	34.8	29.2
Outside home	19.0	15.7	17.6	17.0	26.7
Any Location	50.6	34.5	32.9	41.4	42.7

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A30

Percent of U.S. Persons Using the Internet
By Age, By Location
2000



	Under 25 years	24-34 years	34-44 years	45-54 years	55+ years
At home	33.8	43.9	45.5	43.8	20.2
Outside home	18.7	28.9	24.8	23.4	7.2
Any Location	44.0	56.5	55.0	52.0	23.5

Source: NTIA and ESA, U.S. Departmers of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

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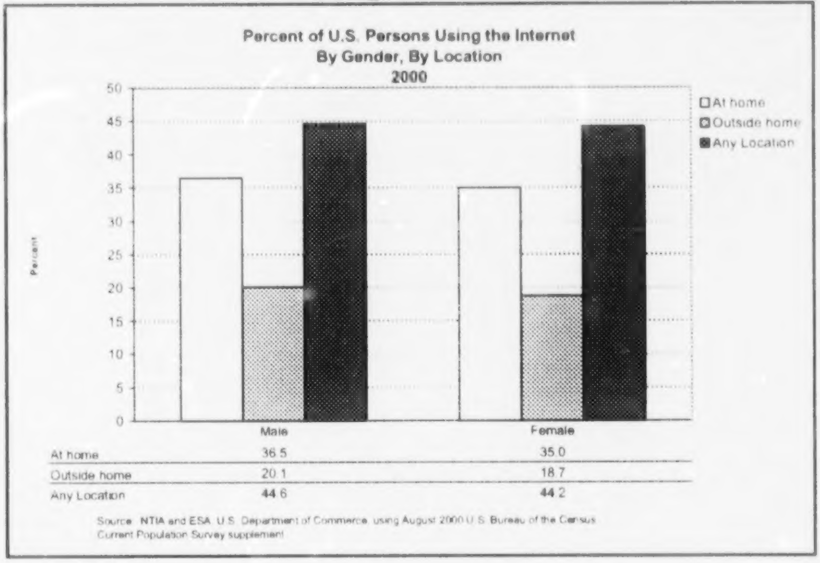
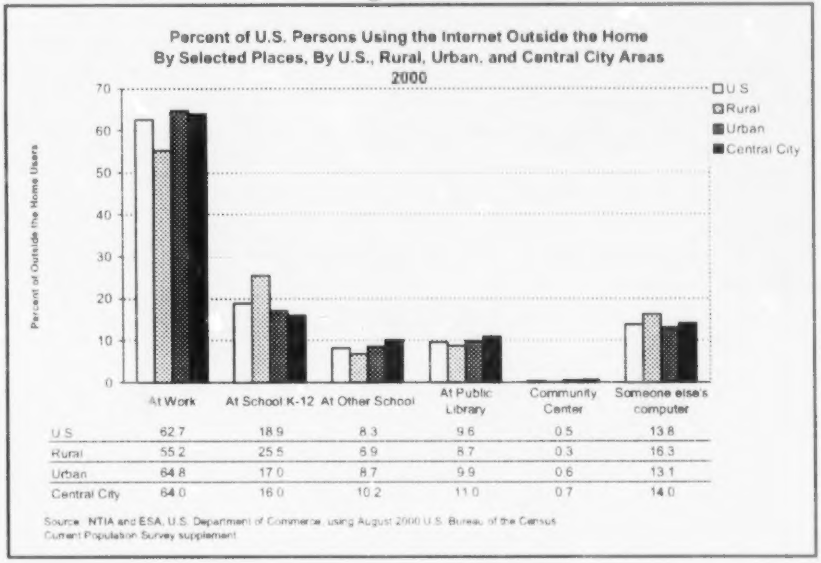
Figure A31



	Male	Female
At home	36.5	35.0
Outside home	20.1	18.7
Any Location	44.6	44.2

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

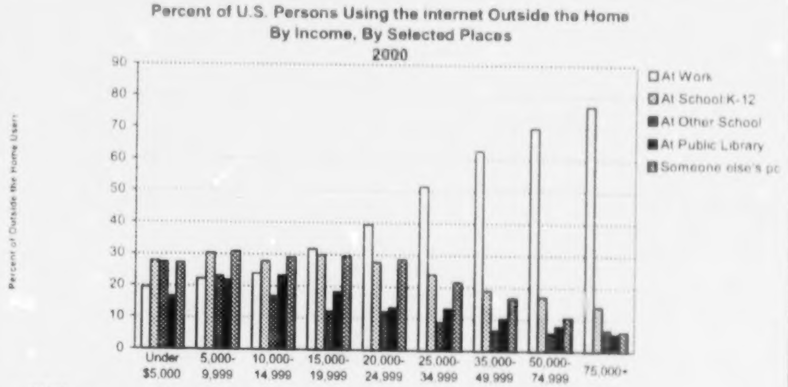
Figure A32



	At Work	At School K-12	At Other School	At Public Library	Community Center	Someone else's computer
U.S.	62.7	18.9	8.3	9.6	0.5	13.8
Rural	55.2	25.5	6.9	8.7	0.3	16.3
Urban	64.8	17.0	8.7	9.9	0.6	13.1
Central City	64.0	16.0	10.2	11.0	0.7	14.0

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

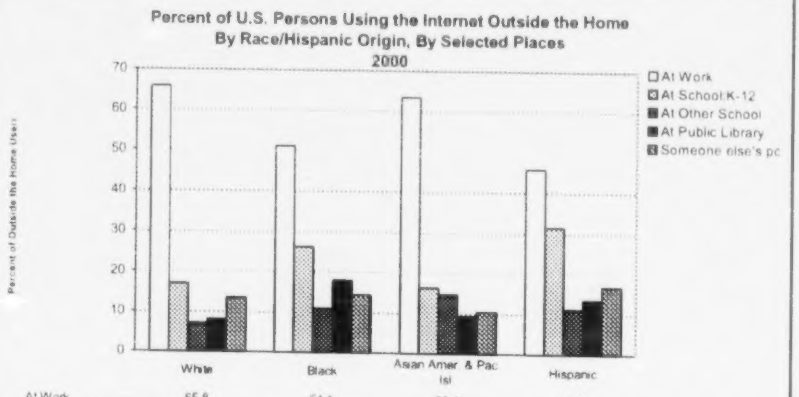
Figure A33



	Under $5,000	5,000-9,999	10,000-14,999	15,000-19,999	20,000-24,999	25,000-34,999	35,000-49,999	50,000-74,999	75,000+
At Work	19.5	22.1	23.9	31.8	39.5	51.5	63.0	70.2	76.9
At School K-12	27.8	30.3	27.7	29.8	27.6	23.9	19.0	16.9	13.9
At Other School	27.4	23.1	16.8	12.0	12.1	8.8	6.5	5.7	6.7
At Public Library	16.5	21.8	23.2	18.2	13.3	13.1	10.0	7.7	5.4
Someone else's pc	27.2	30.8	29.0	29.3	28.5	21.4	16.6	10.5	6.1

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A34



	White	Black	Asian Amer. & Pac. Isl.	Hispanic
At Work	65.8	51.1	63.4	45.9
At School K-12	16.9	26.3	16.5	31.5
At Other School	7.2	11.1	14.7	11.3
At Public Library	8.2	17.9	9.5	13.6
Someone else's pc	13.6	14.4	10.5	16.8

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

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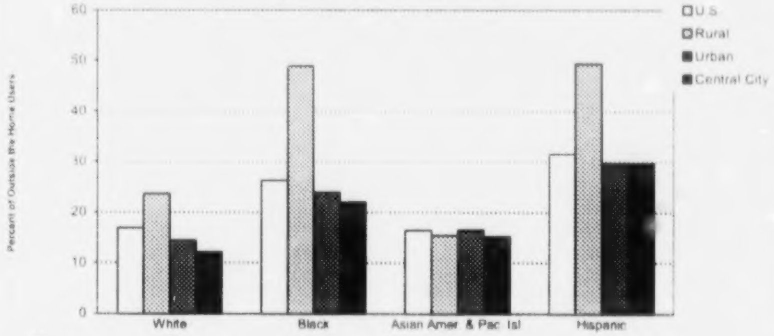
Figure A35

Percent of U.S. Persons Using the Internet Outside the Home at Schools (K-12) By U.S., Rural, Urban, and Central City Areas By Race/Hispanic Origin, 2000

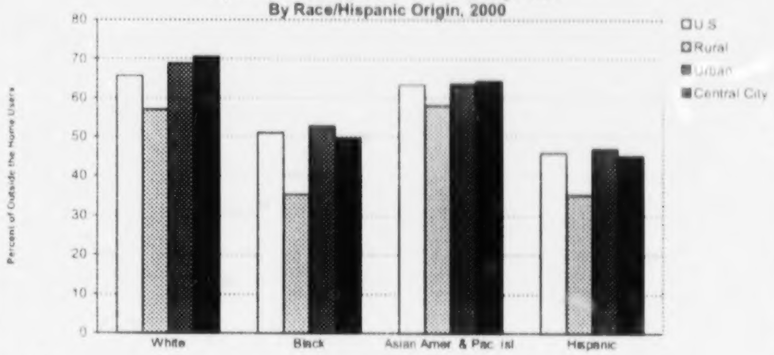


	White	Black	Asian Amer & Pac Isl	Hispanic
U.S	16.9	26.3	16.5	31.5
Rural	23.7	48.9	15.5	49.3
Urban	14.5	23.9	16.5	29.8
Central City	12.2	22.0	15.3	29.7

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A36

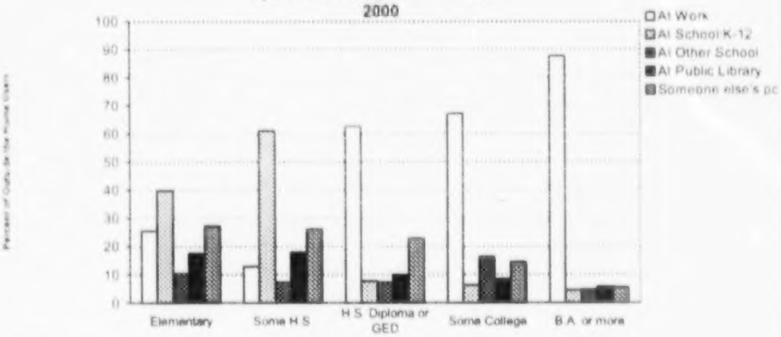
Percent of U.S. Persons Using the Internet Outside the Home at Work By U.S., Rural, Urban, and Central City Areas By Race/Hispanic Origin, 2000



	White	Black	Asian Amer & Pac Isl	Hispanic
U.S	65.8	51.1	63.4	45.9
Rural	57.0	35.3	58.1	35.2
Urban	68.9	52.7	63.6	47.0
Central City	70.8	49.8	64.3	45.2

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

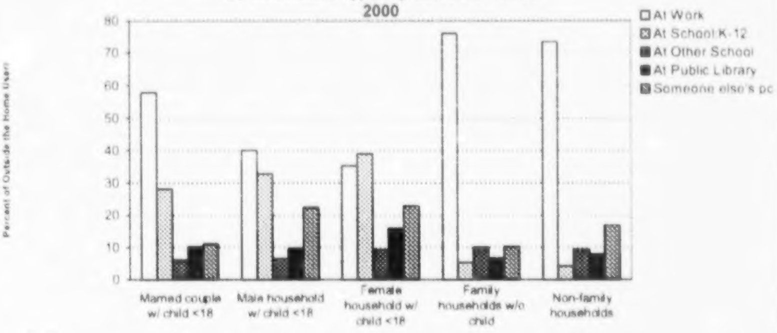
Figure A37


Percent of U.S. Persons Using the Internet Outside the Home
By Education, By Selected Places
2000

	Elementary	Some H.S.	H.S. Diploma or GED	Some College	B.A. or more
At Work	25.7	12.9	62.7	67.4	87.8
At School K-12	39.7	61.3	7.9	6.4	4.5
At Other School	10.6	7.5	7.4	16.3	4.8
At Public Library	17.6	17.9	10.0	8.6	5.9
Someone else's pc	27.5	26.2	23.0	14.6	5.6

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A38


Percent of U.S. Persons Using the Internet Outside the Home
By Household Type, By Selected Places
2000

	Married couple w/ child <18	Male household w/ child <18	Female household w/ child <18	Family households w/o child	Non-family households
At Work	57.8	40.1	35.2	76.0	73.5
At School K-12	28.2	32.8	38.9	5.4	4.4
At Other School	6.3	6.6	9.5	10.2	9.4
At Public Library	10.4	9.9	16.1	6.7	8.0
Someone else's pc	11.3	22.4	22.9	10.4	17.0

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

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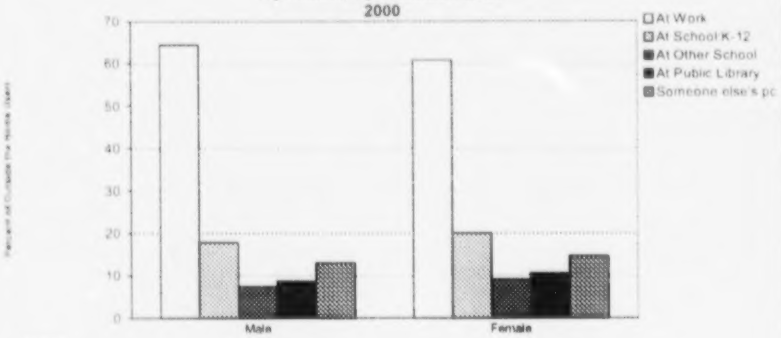
Figure A39

Percent of U.S. Persons Using the Internet Outside the Home
By Gender, By Selected Places
2000

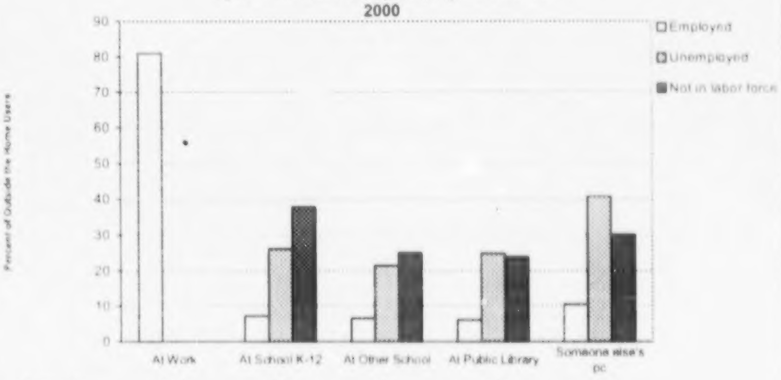


	Male	Female
At Work	64.5	60.8
At School K-12	17.9	20.0
At Other School	7.4	9.2
At Public Library	8.7	10.6
Someone else's pc	13.0	14.6

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A40

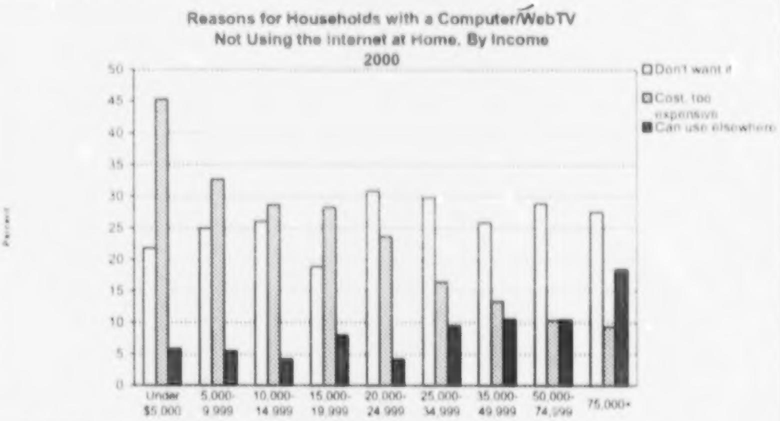
Percent of U.S. Persons Using the Internet Outside the Home
By Selected Places, By Employment Status
2000



	At Work	At School K-12	At Other School	At Public Library	Someone else's pc
Employed	81.0	7.2	6.5	6.2	10.4
Unemployed	0.0	26.1	21.4	24.8	40.9
Not in labor force	0.0	37.7	24.9	23.8	30.1

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

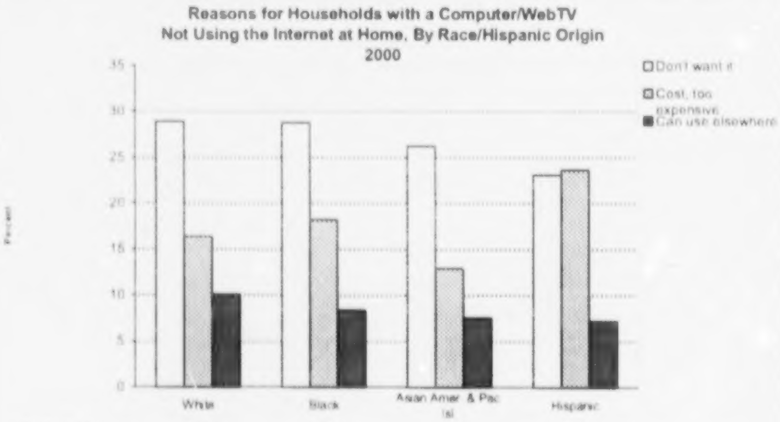
Figure A41


Reasons for Households with a Computer/WebTV Not Using the Internet at Home, By Income 2000

	Under $5,000	5,000-9,999	10,000-14,999	15,000-19,999	20,000-24,999	25,000-34,999	35,000-49,999	50,000-74,999	75,000+
Don't want it	21.8	25.0	26.1	18.9	30.8	29.8	25.9	28.8	27.5
Cost, too expensive	45.3	32.8	28.7	28.3	23.6	16.5	13.3	10.4	9.4
Can use elsewhere	5.9	5.5	4.2	8.0	4.2	9.5	10.6	10.4	18.5

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A42


Reasons for Households with a Computer/WebTV Not Using the Internet at Home, By Race/Hispanic Origin 2000

	White	Black	Asian Amer. & Pac. Isl.	Hispanic
Don't want it	28.9	28.8	26.2	23.1
Cost, too expensive	16.4	18.2	13.0	23.7
Can use elsewhere	10.1	8.4	7.6	7.2

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

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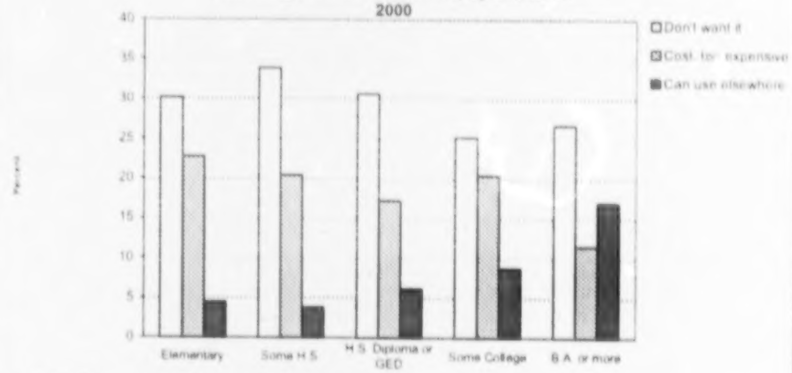
Figure A43

Reasons for Households with a Computer/WebTV Not Using the Internet at Home, By Education 2000

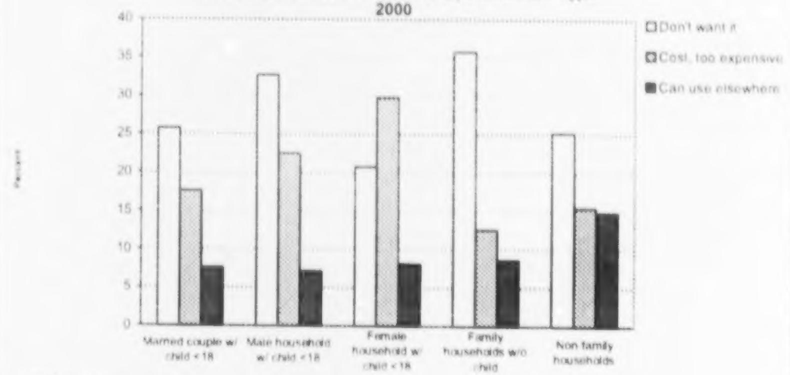


	Elementary	Some H.S.	H.S. Diploma or GED	Some College	B.A. or more
Don't want it	30.2	33.9	30.7	25.2	26.7
Cost, too expensive	22.8	20.4	17.3	20.4	11.6
Can use elsewhere	4.5	3.8	6.2	8.8	17.0

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A44

Reasons for Households with a Computer/WebTV Not Using the Internet at Home, By Household Type 2000



	Married couple w/ child < 18	Male household w/ child < 18	Female household w/ child < 18	Family households w/o child	Non family households
Don't want it	25.8	32.8	20.8	35.8	25.2
Cost, too expensive	17.6	22.5	29.9	12.6	15.5
Can use elsewhere	7.6	7.2	8.1	8.6	14.9

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

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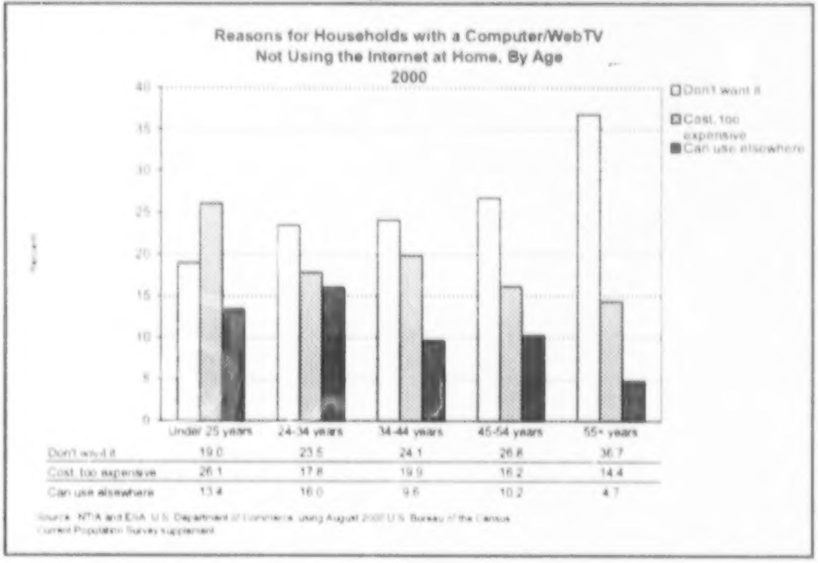
Figure A45

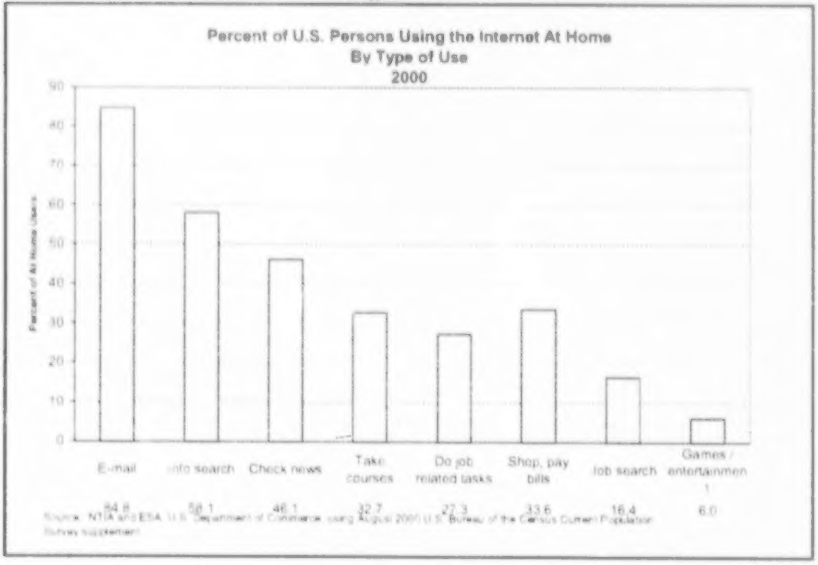


Reasons for Households with a Computer/WebTV Not Using the Internet at Home, By Age
2000

	Under 25 years	24-34 years	34-44 years	45-54 years	55+ years
Don't want it	19.0	23.5	24.1	26.8	36.7
Cost, too expensive	26.1	17.8	19.9	16.2	14.4
Can use elsewhere	13.4	16.0	9.6	10.2	4.7

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

Figure A46

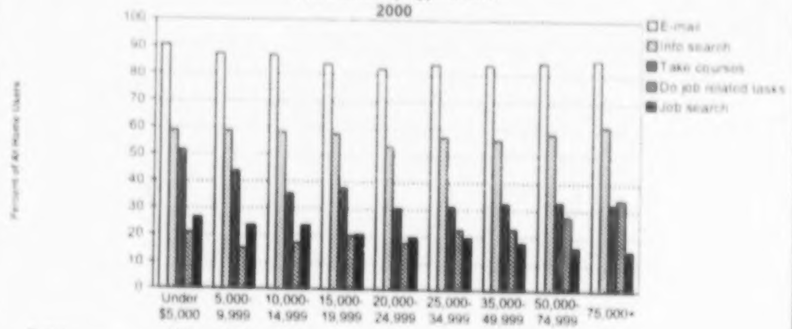


Percent of U.S. Persons Using the Internet At Home By Type of Use
2000

E-mail	Info search	Check news	Take courses	Do job related tasks	Shop, pay bills	Job search	Games / entertainment
84.8	58.1	46.1	32.7	27.3	33.6	16.4	6.0

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement

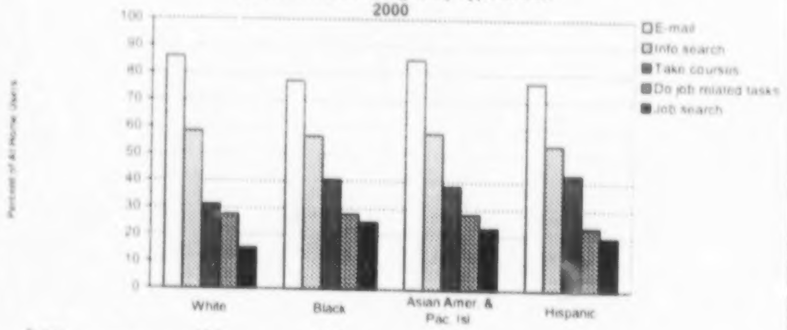
Figure A47


Percent of U.S. Persons Using the Internet At Home
By Income, By Type of Use
2000

	Under $5,000	5,000-9,999	10,000-14,999	15,000-19,999	20,000-24,999	25,000-34,999	35,000-49,999	50,000-74,999	75,000+
E-mail	90.5	87.4	86.8	83.6	82.0	83.7	83.7	84.6	85.5
Info search	58.8	58.7	58.3	57.7	53.3	56.6	55.8	58.2	61.1
Take courses	51.4	43.9	35.6	37.7	30.2	31.0	32.4	32.9	32.2
Do job related tasks	21.0	15.2	17.2	20.2	17.6	22.5	22.9	27.5	33.8
Job search	26.5	23.6	23.7	20.4	19.5	19.5	17.8	16.0	14.7

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A48


Percent of U.S. Persons Using the Internet At Home
By Race/Hispanic Origin, By Type of Use
2000

	White	Black	Asian Amer. & Pac. Isl.	Hispanic
E-mail	85.9	77.1	85.2	76.7
Info search	58.5	56.8	58.1	53.8
Take courses	31.0	40.6	38.4	43.1
Do job related tasks	27.5	27.9	28.1	23.3
Job search	15.1	24.8	23.0	19.6

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

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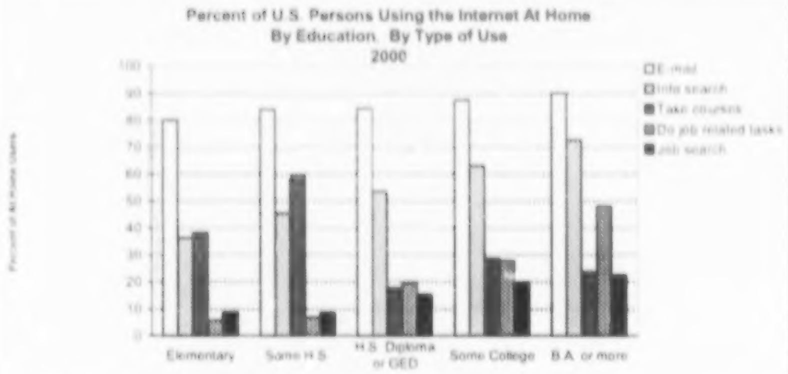
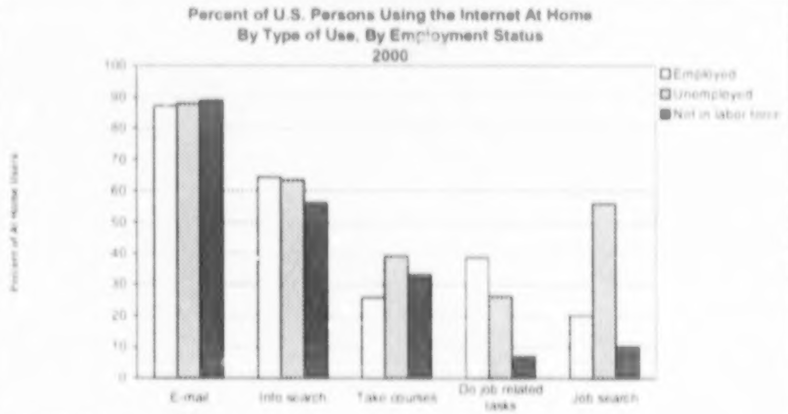
Figure A49


Percent of U.S. Persons Using the Internet At Home
By Education, By Type of Use
2000

	Elementary	Some H.S.	H.S. Diploma or GED	Some College	B.A. or more
E-mail	80.1	84.2	84.7	87.6	90.1
Info search	36.4	45.5	53.5	63.1	72.6
Take courses	38.3	59.7	17.8	28.7	24.0
Do job related tasks	5.8	6.8	19.6	28.0	48.2
Job search	8.9	8.7	15.4	19.9	22.7

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

Figure A50


Percent of U.S. Persons Using the Internet At Home
By Type of Use, By Employment Status
2000

	E-mail	Info search	Take courses	Do job related tasks	Job search
Employed	87.1	64.5	25.8	38.7	20.1
Unemployed	88.0	63.5	39.1	26.2	55.9
Not in labor force	88.8	56.2	33.3	7.0	10.1

Source: NTIA and ESA, U.S. Department of Commerce, using August 2000 U.S. Bureau of the Census Current Population Survey supplement.

APPENDIX TABLE 1-Reasons for discontinuing home Internet use, by selected characteristics
of reference person, Total, Urban, Rural, Central City, 2000
(Numbers in Thousands) Total USA

	TOTAL HHLDS	CAN USE ELSEWHERE No.	CAN USE ELSEWHERE %	COST, TOO EXPENSIVE No.	COST, TOO EXPENSIVE %	NOT ENOUGH TIME TO USE IT No.	NOT ENOUGH TIME TO USE IT %	NOT USEFUL No.	NOT USEFUL %	NOT USER FRIENDLY No.	NOT USER FRIENDLY %	PROBLEMS WITH SERVICE PROVIDER No.	PROBLEMS WITH SERVICE PROVIDER %
All Households	3,953	504	12.76	487	12.33	395	10.01	166	4.20	60	1.52	115	2.91
FAMILY INCOME													
Under $5,000	74	16	22.18	19	25.09	3	3.96	4	5.29	0	0.00	0	0.00
5,000-9,999	183	7	3.81	22	12.05	17	9.47	6	3.14	0	0.00	5	2.68
10,000-14,999	211	18	8.54	29	13.50	12	5.85	4	1.71	8	3.94	0	0.00
15,000-19,999	192	26	13.66	30	15.59	12	6.29	10	5.38	3	1.77	7	3.66
20,000-24,999	269	25	9.44	49	18.41	11	4.12	14	5.24	2	0.78	2	0.86
25,000-34,999	600	62	10.28	55	9.14	72	12.07	29	4.75	9	1.46	26	4.27
35,000-49,999	636	60	9.44	80	12.59	66	10.34	21	3.29	12	1.87	19	3.03
50,000-74,999	697	105	15.10	69	9.89	98	14.05	50	7.12	6	0.92	17	2.42
75,000+	612	137	22.42	46	7.52	63	10.32	19	3.10	6	0.94	25	4.13
Not reported	480	47	9.89	89	18.55	41	8.45	10	2.15	14	3.01	14	2.88
AGE													
Under 25 years	479	66	13.71	53	11.11	22	4.50	16	3.40	0	0.00	11	2.29
25-34 years	1,102	189	17.15	124	11.28	140	12.70	29	2.60	15	1.39	24	2.17
35-44 years	1,117	125	11.14	156	13.99	126	11.25	48	4.32	8	0.68	43	3.87
45-54 years	696	70	10.09	96	13.74	39	5.56	34	4.93	8	1.13	20	2.90
55+ years	559	55	9.87	58	10.35	70	12.45	38	6.87	29	5.26	17	3.00
RACE													
White Not Hispanic	3,156	400	12.66	379	12.02	309	9.79	140	4.43	51	1.61	83	2.64
Black Not Hispanic	347	36	10.35	55	15.80	35	9.96	17	4.91	6	1.66	13	3.89
AIEA Not Hispanic	26	0	1.67	10	38.32	3	12.93	0	0.00	0	0.00	1	3.64
API Not Hispanic	121	12	9.64	12	9.58	16	12.97	3	2.49	0	0.00	6	4.88
Hispanic	303	57	18.76	32	10.44	33	10.86	6	2.02	4	1.19	11	3.74
GENDER													
Male	2,142	259	12.09	275	12.86	246	11.47	93	4.36	41	1.93	62	2.91
Female	1,811	246	13.56	212	11.70	150	8.28	73	4.01	19	1.04	53	2.91
EDUCATIONAL ATTAINMENT													
Elementary: 0-8 years	56	3	5.47	8	14.66	3	5.23	0	0.00	3	5.64	3	5.72
Some H.S.: no diploma	222	19	8.61	40	17.88	14	6.38	10	4.70	4	1.84	5	2.05
H.S. Diploma/GED	1,250	91	7.25	210	16.79	141	11.29	57	4.57	22	1.75	36	2.88
Some College	1,242	114	9.14	131	10.55	157	12.64	47	3.75	11	0.92	35	2.83
Bachelors degree or more	1,183	278	23.51	98	8.32	80	6.79	52	4.37	20	1.66	36	3.05
HOUSEHOLD TYPE													
Mar Couple w/Child<18	1,180	103	8.70	197	16.67	173	14.67	51	4.32	19	1.57	36	3.07
Male Hhldr w/Child<18	101	11	10.56	13	13.29	6	6.24	2	2.01	7	7.09	3	3.10
Female Hhldr w/Child<18	506	34	6.72	77	15.18	41	8.18	17	3.41	4	0.80	17	3.35
Family Hhld w/o Child<18	784	113	14.48	79	10.05	83	10.57	20	2.58	19	2.47	21	2.69
Non-family Households	1,382	244	17.62	122	8.79	92	6.65	75	5.46	11	0.80	38	2.73
EMPLOYMENT													
Employed	3,194	433	13.56	372	11.65	352	11.02	110	3.45	34	1.07	88	2.76

APPENDIX TABLE 1-Reasons for discontinuing home Internet use, by selected characteristics
of reference person, Total, Urban, Rural, Central City, 2000
(Numbers in Thousands) Total USA

	CONCERN WITH CHILDREN		DON'T WANT IT		NO LONGER OWNS COMPUTER		MOVED		COMPUTER REQUIRES REPAIR		COMPUTER CAPACITY ISSUES		OTHER	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
All Households	89	2.26	406	10.26	671	16.96	243	6.14	383	9.70	46	1.16	383	9.79
FAMILY INCOME														
Under $5,000	0	0.00	3	3.60	17	23.36	8	10.65	4	4.78	0	0.00	1	1.08
5,000-9,999	2	1.17	11	6.08	61	33.30	21	11.70	14	7.82	0	0.00	16	8.76
10,000-14,999	3	1.18	21	10.06	57	26.83	26	12.11	24	11.41	0	0.00	10	4.87
15,000-19,999	6	3.00	7	3.81	36	18.59	15	7.62	27	14.11	3	1.60	10	5.39
20,000-24,999	9	3.21	16	5.96	71	26.49	17	6.22	33	12.22	7	2.77	11	4.27
25,000-34,999	19	3.14	56	9.41	94	15.69	33	5.55	72	12.07	3	0.58	70	11.59
35,000-49,999	14	2.25	70	11.02	132	20.83	27	4.28	73	11.52	8	1.28	53	8.27
50,000-74,999	16	2.28	70	10.06	110	15.82	55	7.86	40	5.75	5	0.68	56	8.06
75,000+	19	3.12	64	10.41	60	9.83	32	5.31	73	11.93	11	1.74	57	9.24
Not reported	2	0.45	87	18.11	32	6.68	9	1.86	23	4.76	8	1.72	103	21.50
AGE														
Under 25 years	2	0.44	35	7.34	104	21.70	74	15.38	56	11.76	0	0.00	40	8.37
25-34 years	9	0.81	81	7.34	233	21.18	68	6.18	73	6.62	15	1.34	102	9.24
35-44 years	52	4.68	109	9.76	145	12.97	57	5.08	112	9.99	15	1.32	122	10.94
45-54 years	17	2.39	100	14.39	108	15.44	28	4.06	106	15.23	12	1.66	59	8.48
55+ years	9	1.69	80	14.38	81	14.48	16	2.88	36	6.52	5	0.82	64	11.43
RACE														
White Not Hispanic	64	2.03	332	10.51	564	17.89	193	6.10	286	9.08	38	1.19	316	10.03
Black Not Hispanic	1	0.15	33	9.56	54	15.55	13	3.88	42	12.02	3	0.78	40	11.51
AIEA Not Hispanic	2	8.20	0	0.00	1	4.21	4	15.48	0	0.00	0	0.00	4	15.55
API Not Hispanic	2	1.74	19	15.89	7	6.13	14	11.61	19	15.33	4	2.99	8	6.73
Hispanic	20	6.72	21	6.89	44	14.40	19	6.18	37	12.09	2	0.61	18	6.10
GENDER														
Male	36	1.67	224	10.47	281	13.58	151	7.04	191	8.91	25	1.18	247	11.54
Female	54	2.95	181	10.01	[illegible]	20.97	92	5.08	193	10.63	21	1.13	140	7.72
EDUCATIONAL ATTAINMENT														
Elementary: 0-8 years	3	4.85	2	4.04	16	28.48	3	4.64	4	6.99	1	1.46	7	12.82
Some H.S.: no diploma	7	2.95	25	11.36	45	20.42	6	2.77	29	12.92	4	1.85	14	6.28
H.S. Diploma/GED	36	2.86	144	11.51	202	16.14	61	4.85	128	10.24	16	1.29	107	8.57
Some College	30	2.40	117	9.41	219	17.65	86	6.95	143	11.50	17	1.36	135	10.89
Bachelors degree or mo	14re	1.22	117	9.91	188	15.92	87	7.36	80	6.76	8	0.67	123	10.44
HOUSEHOLD TYPE														
Mar Couple w/Child<18	44	3.70	118	9.98	98	8.34	48	4.06	165	13.99	21	1.76	108	9.17
Male Hhldr w/Child<18	0	0.00	11	11.06	25	24.87	4	3.81	16	15.95	0	0.00	2	2.03
Female Hhldr w/Child<1	298	5.79	39	7.77	117	23.06	25	5.03	61	12.10	4	0.70	40	7.91
Family Hhld w/o Child<	1418	1.75	95	12.09	103	13.16	47	6.05	77	9.78	14	1.77	99	12.58
Non-family Households	3	0.20	143	10.32	327	23.68	118	8.56	64	4.66	8	0.55	138	10.00
EMPLOYMENT														
Employed	68	2.13	322	10.09	538	16.84	217	6.80	306	9.57	36	1.13	317	9.93

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